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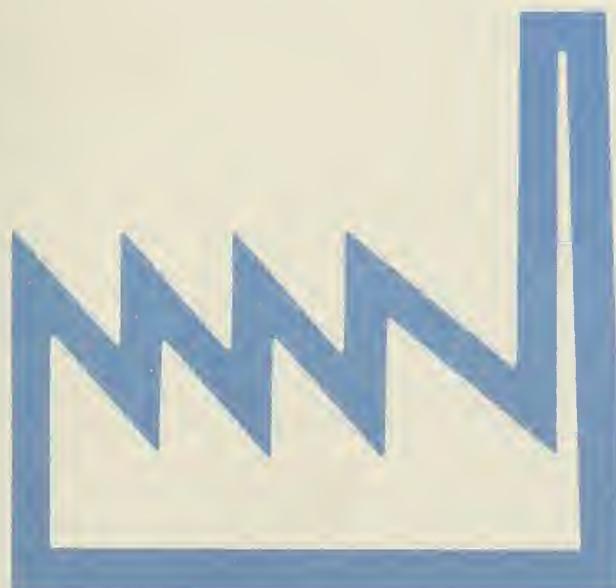
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1987

Census of Manufactures

MC87-S-6

SUBJECT SERIES

Concentration Ratios In Manufacturing



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If you have any questions concerning the statistics in this report, call 301-763-2510.

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Issued February 1992



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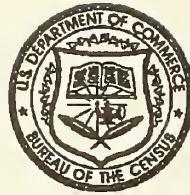
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INTRODUCTION

PURPOSE AND USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.

Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.

State and local Governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.

Trade associations study trends in their own and competing industries, and keep their members informed of market changes.

Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

AUTHORITY AND SCOPE

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

AVAILABILITY OF THE DATA

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

HISTORICAL INFORMATION

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial

activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as *Current Business Reports* (retail and wholesale trade and service industries), the *Annual Survey of Manufactures*, *Current Industrial Reports*, and the *Quarterly Financial Report*. Most of these surveys, while providing more frequent

observations, yield less kind-of-business and geographic detail than the censuses. The *County Business Patterns* program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1987 Economic Censuses and Related Statistics*. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1987 Economic Censuses*. Contact Customer Services for information on availability.

CENSUS OF MANUFACTURES

General

This report, from the 1987 Census of Manufactures, is one of seven subject reports, each of which provides statistics on selected topics pertinent to the manufacturing sector. Additional subject reports include concentration ratios in manufacturing, distribution of sales by class of customer, textile machinery in place, manufacturers' shipments to the Federal Government, and a general National-level summary. Separate industry reports have been issued for groups of related industries and geographic reports for each of the 50 States and the District of Columbia.

The industry reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, capital expenditures, product shipments, etc. State reports present similar statistics for each State and its important metropolitan statistical areas, counties, and places. Selected statistical totals for "all manufacturing" are shown in the State reports for MSA's with 250 employees or more and for counties and places with 450 employees or more. The General Summary report contains industry, product class, and geographic area statistics summarized in one report. The introduction to the General Summary discusses at greater length many of the subjects described in this introduction. For example, the General Summary text will discuss the relationship of value added by manufacture to National income by industry of origin, the changes in statistical concepts over the history of the censuses, and the valuation problems arising from intracompany transfers between manufacturing plants of a company and between manufacturing plants and sales offices and sales branches of a company.

Scope of Census and Definition of Manufacturing

The 1987 Census of Manufactures covers all establishments employing one or more paid employee primarily engaged in manufacturing as defined in the 1987 Standard

Industrial Classification (SIC) Manual¹. This is the system of industrial classification developed over a period of years by experts on classification in government and private industry under the guidance of the Office of Information and Regulatory Affairs, Office of Management and Budget. This classification system is used by Government agencies as well as many organizations outside the Government.

The SIC manual defines manufacturing as the mechanical or chemical transformation of substances or materials into new products. The assembly of component parts of products is also considered to be manufacturing if the resulting product is neither a structure nor other fixed improvement. These activities are usually carried on in plants, factories, or mills that characteristically use power-driven machines and materials-handling equipment.

Manufacturing production is usually carried on for the wholesale market, for transfers to other plants of the same company, or to the order of industrial users rather than for direct sale to the household consumer. Some manufacturers in a few industries sell chiefly at retail to household consumers through the mail, through house-to-house routes, or through salespersons. Some activities of a service nature (enameling, engraving, etc.) are included in manufacturing when they are performed primarily for trade. They are considered nonmanufacturing when they are performed primarily to the order of the household consumer.

Relationship Between Annual Survey of Manufactures and Census of Manufactures

The Bureau of the Census conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the census of manufactures. The ASM is a probability-based sample of approximately 56,000 establishments and collects the same industry statistics (employment, payroll, value of shipments, etc.) as the census of manufactures. In addition to collecting the information normally requested on the census form, the establishments in the ASM sample are requested to supply information on assets, capital expenditures, retirements, depreciation, rental payments, supplemental labor costs, and costs of purchased services, and foreign content of materials consumed. Except for supplemental labor costs the extra ASM items are collected only in census years.

Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location. The ASM also is conducted on an establishment basis but separate reports are filed for just those establishments selected in the sample. Companies engaged in

distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1987, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company (see Auxiliaries).

Manufacturing Universe and Census Report Forms

The 1987 Census of Manufactures universe includes approximately 350,000 establishments. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures. The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small Single-Establishment Companies Not Sent a Report Form

In the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of these small establishments was done on an industry-by-industry basis and was based on annual payroll and total shipments data as well as on the industry classification codes contained in the administrative records of the Federal agencies. The cutoffs were selected so that these administrative-record cases would account for no more than 3 percent of the value of shipments for all manufacturing activity. Generally, all single establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms.

Information on the physical location of the establishment, as well as information on payrolls, receipts (shipments), and industry classification, was obtained from the administrative records of other Federal agencies under special arrangements, which safeguarded their confidentiality. Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost

¹Standard Industrial Classification Manual: 1987: For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, Stock No. 041-001-00314-2.

of materials were not distributed among specific products and materials for these establishments but were included in the product and material "not specified by kind" (n.s.k.) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to the four-digit SIC level. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes these administrative-record cases were only given a two- or three-digit SIC group. For the 1987 Census of Manufactures, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the four-digit SIC level. Establishments that did not return the classification form were coded later to those four-digit SIC industries identified as "not elsewhere classified" (n.e.c.) within the given two or three-digit industry groups.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments Sent a Report Form

The 200,000 establishments covered in the mail canvass were divided into three groups:

a. **ASM sample establishments**—This group consisted of approximately 56,000 establishments covering all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size (see appendix, Annual Survey of Manufactures).

In a census of manufactures year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply information on assets, capital expenditures, retirements, depreciation, rental payments, supplemental labor costs, and costs of purchased services.

The census part of the report form is one of approximately 200 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 459 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries, as well as secondary products and miscellaneous services that establishments classified in these industries were likely to be performing. Respondents were requested to identify the products, the value of each product, and, in a large number of cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry, which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials, not identified on the form.

Finally, a wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. **Large and medium establishments (non-ASM)**—Approximately 84,000 establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the approximately 200 census of manufactures regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. **Small single-establishment companies (non-ASM)**—This group consisted of approximately 60,000 establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or "short" form was used.

These establishments received 1 of the approximately 80 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics; the same data were collected on the short form as well as the long form. However, detailed information on materials consumed was not collected on the short form; thus its use would increase the value of the n.s.k. categories.

Auxiliaries

Auxiliaries are establishments whose employees are primarily engaged in performing supporting services for other establishments of the same company, rather than for the general public or for other business firms. They can be at different locations from the establishments served or at the same location as one of those establishments but not operating as an integral part thereof and serving two establishments or more. Where auxiliary operations are conducted at the same location as the manufacturing operation and operate as an integral part thereof, they usually are included in the report for the operating manufacturing establishment.

Included in the broad category of auxiliaries are administrative offices. Employees in administrative offices are concerned with the general management of multiestablishment companies, i.e., with the general supervision and control of two units or more, such as manufacturing plants, mines, sales branches, or stores. The functions of these employees may include (1) program planning, including sales research and coordination of purchasing, production, and distribution; (2) company purchasing, including general contracts and purchasing methods; (3) company financial policy and accounting; (4) general engineering, including design of product machinery and equipment, and direction of engineering effort conducted at the individual operation locations; (5) direction of company personnel matters; and (6) legal and patent matters.

Other types of auxiliaries serving the plants or central management of the company include purchasing offices, sales promotion offices, research and development organizations, etc.

Industry Classification of Establishments

Each of the establishments covered in the census was classified in 1 of 459 manufacturing industries in accordance with the industry definitions in the 1987 SIC Manual. The 1987 edition of this manual represents a major revision for manufacturing industries from the 1972 edition and its 1977 supplement. Appendix A of the 1987 SIC Manual notes the revisions in the four-digit industry levels between 1972/77 and 1987.

An industry is generally defined as a group of establishments producing a single product or a closely related group of products. The product groupings from which industry classifications are derived are based on considerations such as similarity of manufacturing processes, types of materials used, types of customers, and the like. The resulting group of plants must be significant in terms of its number, value added by manufacture, value of shipments, and number of employees. The system operates in such a way that the definitions progressively became narrower with successive additions of numerical digits. For 1987, there are 20 major groups (two-digit SIC), 139 industry groups (three-digit SIC), and 459 industries (four-digit SIC). This represents an expansion of four-digit industries from 452 in 1972/77 and a reduction of three-digit groups from 143 in 1972/77. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are about 11,000 products, identified by a seven-digit code. The seven-digit products are considered the primary products of the industry with the same first four digits.

Accordingly, an establishment is usually classified in a particular industry on the basis of its major activity during a particular year, i.e., production of the products primary to that industry exceeds, in value, production of the products primary to any other single industry. In a few instances, the industry classification of an establishment is not only determined by the products it makes but also by the process employed in operations, refining of nonferrous metals from ore, or rolling and drawing of nonferrous metals (processes which involve heavy capitalization in specialized equipment). These establishments then would be "frozen" in that industry during the following ASM years.

In either a census or ASM year, establishments included in the ASM sample with certainty weight, other than those involved with heavily capitalized activities described above, are reclassified by industry only if the change in the primary activity from the prior year is significant or the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year (see Appendix, Annual Survey of Manufactures). However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The result of these rules covering the switching of plants from one industry classification to another is that, at the aggregate level, some industries comprise different mixes of establishments between survey years, and establishment data for such industry statistics as employment and payroll may be tabulated in different industries between survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the four-digit

SIC level should be viewed with caution. This is true particularly for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of establishments.

While some establishments produce only the primary products of the industry in which they are classified, all establishments of an industry rarely specialize to this extent. The industry statistics (employment, inventories, value added by manufacture, total value of shipments including resales and miscellaneous receipts, etc.) therefore, reflect not only the primary activities of the establishments in that industry but also their secondary activities.

CENSUS DISCLOSURE RULES

In accordance with Federal law governing census reports, no statistics are published that would disclose the data for an individual establishment or company. However, the number of establishments classified in a specific industry is not considered a disclosure, so this item may be given even though other information is withheld.

The disclosure analysis for the industry statistics in the tables of this report is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line has been suppressed. However, the suppressed data are included in higher level totals. Additional disclosure analysis is performed for new capital expenditures that can be suppressed even though value of shipments data are publishable.

SPECIAL TABULATIONS

Special tabulations of data collected in the 1987 Census of Manufactures may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential

information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief, Industry Division, Bureau of the Census, Washington, DC 20233.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

-	Represents zero.
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(NC)	Not comparable.
(S)	Withheld because estimate did not meet publication standards.
(X)	Not applicable.
(Z)	Less than half the unit shown.
do	Ditto.
n.e.c.	Not elsewhere classified.
n.s.k.	Not specified by kind.
pt.	Part.
r	Revised.
SIC	Standard Industrial Classification.

CONTACTS FOR DATA USERS

Subject Area	Contact	Phone
Census/ASM		
Durables	Kenneth Hansen	(301) 763-7304
Nondurables	Michael Zampogna	(301) 763-2510
Current Industrial Reports		
Durables	Malcolm Bernhardt	(301) 763-2518
Nondurables	Tom Flood	(301) 763-5911
Import/Export	Foreign Trade Division	(301) 763-5140
Industry Analysis and Forecasts	International Trade Administration	(202) 377-4356

EXPLANATORY TEXT

GENERAL

This report provides ratios on the share of industrial activity accounted for by the largest companies, both for the United States as a whole and for each of the 459 manufacturing industries.

The first presentation of concentration ratios in manufacturing by the Bureau of the Census was made in 1939 and was based on the 1935 Census of Manufactures. Ratios for all manufacturing industries were presented in the National Resources Committee publication, *The Structure of the American Economy*. In the 1937 census, concentration ratios were presented for a large sample of individual products. Beginning in 1947, with the first full census following World War II, concentration ratios have been presented as part of every census of manufactures. In 1954, 1958, and 1963, the Census Bureau conducted the project in cooperation with the Senate Subcommittee on Antitrust and Monopoly. The Census Bureau has continued to present this widely-used report in the censuses of 1967, 1972, 1977, 1982, and 1987 for the benefit of data users in the industrial, educational, and government communities.

As in previous reports, no attempt is made to interpret the significance of the concentration ratios. The ratios are not used as the basis for an analysis of either the causes or effects of concentration. The report consists merely of a presentation of the ratios themselves.

Through years of usage, the term "concentration ratio" has come to mean the share of the total activity or resources of a given segment of the economy accounted for by its largest companies. In order to avoid disclosure of the operations of any individual firm, the concentration ratios based on census data are presented in groups of four companies or more, that is, the four largest, eight largest, and so forth.

CONCENTRATION RATIOS AND THE ESTABLISHMENT BASIS OF REPORTING

The concentration ratios based on census of manufactures data have consistently been prepared from establishment reports. Under the establishment system, the shipments of a given company are distributed among all of the industries in which it has establishments. In tables 1 and 2 of this report, which reflect the activity of the largest companies in the industrial sector as a whole, the establishment approach means that only the manufacturing establishments of these companies are taken into account in determining their size. In tables 3 and 4, a company is

defined as the total of the individual establishments under one ownership within an industry group or industry. Consequently, the same company may appear in several industry groups or industries if it has diversified activities.

CONCENTRATION RATIOS AND THE SIC SYSTEM

In essence, the SIC system seeks to establish spheres of economic activity which are unique and are distinguishable by the composite of similar characteristics which they have in common. These characteristics include similarity of products in terms of their uses, manufacturing processes, and materials used. The SIC system also attempts to bring together plants which specialize in making these products and account for a significant proportion of their total shipments, and plants which are economically significant in terms of their number, value added by manufacture, value of shipments, and number of employees. The standards also largely parallel the actual structure into which American businesses have grouped themselves, and it is the sum of these characteristics that make it the best single system for the largest number of uses. In the majority of instances, an industry is comprised of producers of similar goods or services. Usually, the products are made of similar materials and by similar processes, and the producers compete with one another.

For the purpose of measuring concentration, the fact that the classification system is not based exclusively on the usage of the product is somewhat of a limitation, since in the economic concept of the market, it is immaterial whether products which are substitutable for each other, are produced by the same processes, or are made from the same materials. In some cases, the industry and product definitions are too broad; that is, there are products that are included in the same category which do not serve the same function and are, thus, not substitutable for each other. For these cases, the concentration ratios for the industry may significantly underestimate the concentration in the individual product markets. In other cases, they are too narrow; that is, a single category fails to include products which are substitutable—for example, metal and glass containers. For these cases, the concentration ratios may overstate the concentration in the market.

Another limitation is the fact that the classification's industries and products are regularly being redefined. The need for redefinition arises particularly from the introduction of new products, the declining of older products, the introduction of new technologies, the growth of small fields

into important industries, and similar dynamic developments. While necessary to keep the classification system abreast of the changing nature of the economy, an inevitable cost of redefinition is the loss of comparability for many categories over time.

Another source of understatement of the concentration ratios is the method in which establishments are identified. The identification of which plants are controlled by which companies is based on census reports and available public records. As part of each census, each company is sent a questionnaire requiring them to list the plants which they operate directly or through their subsidiaries and affiliates. Any plant misreported as not being controlled by a company contributes to an understatement of the concentration for that company.

A final limitation of the concentration ratios in the domestic market is due to the handling of imports and exports. Products imported and sold which require no further manufacturing, processing, or assembly are generally not included in the shipments for an industry, and tend to overstate the concentration in the market. Products manufactured in the United States and then exported are included in the shipments for an industry, and, therefore, tend to underestimate the concentration in the market.

EXPLANATION FOR TABLES 1 AND 2

These two tables reflect the activity of the largest companies in the industrial sector as a whole. A "company" is defined, for this purpose, as the total of its industrial establishments, including not only its manufacturing plants, but also its auxiliary establishments such as warehouses and central administrative offices.

Concentration at this level is measured in terms of value added by manufacture. In these census tabulations, value added is preferable to sales or shipments in measuring total company size, since an aggregation of shipments from the census establishment records would contain duplication owing to intercompany transfers of products. Value added for all manufacturing establishments of a given company was aggregated irrespective of the industry classification of the individual establishments. The companies were then arrayed by magnitude of value added in each specific year and totals computed for the 50, 100, and 200 largest companies.

The formula for calculating value added by manufacture for the censuses 1958 through 1987 differs from the one used for the 1954 census and earlier years. During the earlier period, the value added of an establishment was calculated by subtracting the cost of materials, supplies, containers, fuels, purchased electricity, and contract work from the value of shipments for products manufactured plus the miscellaneous receipts for services rendered. This is known as "unadjusted value added" in census publications. Beginning with 1958, the measure of value added has been adjusted for each establishment in two respects. Value added now includes:

1. Value added by merchandising (that is, the difference between the sales value and cost of merchandise sold without further manufacture, processing, or assembly—"Resales");
2. An adjustment for the net change in finished goods and work-in-progress inventories between the beginning and the end of the year. The resulting figure is the "adjusted value added." Furthermore, for 1982, the value added by manufacture is not strictly comparable to prior censuses data due to a change in the instructions for reporting inventories. Effective with the 1982 Economic Censuses, uniform instructions for reporting inventories were introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using generally accepted accounting methods (FIFO, LIFO, market, etc.). In 1982, LIFO users were asked to report first the inventory values prior to the LIFO adjustment and, secondly, to report the LIFO reserve and value after adjustment for the reserve.

Thus, the ranking of the 200 largest companies in 1947 and 1954 was based on unadjusted value added; those for later years were based on adjusted value added. The use of these different measures for determining size should have little effect on the ranking and relative shares of individual companies or on the aggregated shares of the 50, 100, 150, and 200 largest companies in each year.

Companies were classified in size groups in each particular year based on their size in that year. Thus, a size group (such as the top four) does not necessarily include the same companies from year to year.

EXPLANATION FOR TABLES 3 AND 4

These tables are based on the establishment approach described in the introduction. A "company" is defined as the total of the individual establishments under one ownership within an industry group or industry. Consequently, the same company may appear in several industry groups or industries if it has diversified activities. In addition, the following points should be kept in mind:

1. The top 4, 8, 20, and 50 companies are the largest for any particular year based on their value of shipments in that year and are, therefore, not necessarily the same companies from year to year.
2. For a few industries (indicated by footnotes), value added by manufacture rather than value of shipments has been used to determine the size of companies. This is considered necessary for industries in which the aggregated value of shipments contains a large amount of duplication due to large

shipments of partially-finished products between establishments. An example is SIC 3312, Blast Furnaces and Steel Mills, in which there are extensive intra-industry sales and transfers of coke oven and blast furnace products to finishing plants. (The historical changes in the method for calculating value added by manufacture are described in the discussion of Tables 1 and 2.)

3. Ratios are shown for years prior to 1987 only if the SIC industry definitions were considered comparable. There were extensive revisions in the SIC system in 1987 and 1972 which, in Table 4, result in suppression of data for earlier years for a substantial number of industries. In general, the criteria used for judging the comparability of definitions was the effect of the change on the number of employees in the industry under the old and new definitions. If the SIC change caused more than a 2 percent change, the historical data were suppressed. Table 3 is new for 1987, and therefore, only the 1987 data are available.
4. The 1966, 1970, and 1976 concentration ratios are based on data developed in the Annual Survey of Manufactures. Since the industry aggregates which provide the denominators in the concentration ratios are based on a sample, they are subject to sampling errors. Sampling errors for each industry, as well as a more complete description of the Annual Survey of Manufactures sample, are shown in the appendix.

HERFINDAHL-HIRSCHMANN INDEX

The Herfindahl-Herschmann Index was shown for the first time in the *1982 Concentration Ratios in Manufacturing publication*. The concept for this index was developed by Albert O. Hirschmann in 1945 in his book, *National Power and Structure of Foreign Trade*. A similar index was developed by Orris C. Herfindahl in his unpublished Ph.D. dissertation, "Concentration in the Steel Industry," at Columbia University in 1950.

The Herfindahl-Herschmann Index is a truncated index and is calculated by squaring the concentration ratio for each of the top 50 companies or the entire universe (whichever is lower), and summing those squares to a cumulative total. The cumulative total is the Herfindahl-Herschmann Index. This index is shown in table 3 at the two-digit industry group and all-manufacturing-industries levels, and in table 4 at the four-digit industry level.

Application of the index is relatively straightforward. The higher the index, the more concentrated the industry group or industry is at the top. For example, consider an industry where the concentration ratio for the top 50 companies is 100. From the concentration ratio, it is impossible to determine the amount accounted for by the top ranked companies. The Herfindahl-Herschmann Index would provide an insight to this determination. If each of the top 50 companies accounted for 2 percentage points of the 100 percent, the index would be 200. However, if the top ranked company accounted for 50 percentage points, and the remaining 49 companies slightly more than 1 percentage point each, the index would be 2550.

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Table 1. Share of Value Added by Manufacture Accounted for by the 50, 100, 150, and 200 Largest Manufacturing Companies: 1987 and Earlier Years

[Percent. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Company rank group	1987	1982	1977	1976	1972	1970	1967	1966	1963	1962	1958	1954
50 largest	25	24	124	124	25	24	25	25	25	24	23	23
100 largest	33	33	33	33	33	33	33	33	33	32	30	30
150 largest	39	39	39	39	39	38	38	38	37	36	35	34
200 largest	43	43	44	44	43	43	42	42	41	40	38	37

Note: 1962, 1966, 1970, and 1976 data are based on the annual survey of manufactures. "Largest companies" are those which were the largest in each of the specified years.

¹As a result of rounding these percentages to whole numbers, 1977 and 1976 largest 50 companies ratios show a significant decrease from 1972 levels. The decrease is actually much smaller; see table 4 for unrounded percentages for 1972. The 1976 unrounded figures are available in the 1976 Annual Survey of Manufactures publication, "Concentration Ratios in Manufacturing: 200 Largest Companies."

Table 2. Share of Value Added, Employment, Payroll, Value of Shipments, and New Capital Expenditures Accounted for by the 200 Largest Companies: 1987 and Earlier Census Years

[Percent. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Year of company ranking and company rank group based on value added by manufacture	Value added by manufacture	All employees		Total payroll		Production workers			Value of shipments ³	New capital expenditures
		With auxiliaries ¹	Without auxiliaries ²	With auxiliaries ¹	Without auxiliaries ²	Number	Hours	Wages		
50 largest	1987--	24.9	16.8	15.8	24.1	22.8	14.1	14.4	21.5	24.8
	1982--	23.9	17.1	15.9	23.5	22.0	14.3	14.3	20.5	23.2
	1977--	24.4	17.9	17.1	24.8	23.7	16.2	16.8	23.6	25.3
	1972--	24.5	19.4	18.3	25.1	24.0	17.5	17.9	23.6	24.3
	1967--	24.6	20.2	(NA)	25.2	(NA)	17.8	17.9	22.5	24.7
51st to 100th largest	1987--	8.5	5.7	5.4	6.9	6.4	5.2	5.3	6.4	8.3
	1982--	8.9	6.7	6.4	8.0	7.6	6.2	6.2	7.6	8.6
	1977--	9.0	7.1	6.7	8.1	7.6	6.7	6.8	7.8	9.2
	1972--	8.6	6.4	6.1	7.3	6.9	5.9	6.1	6.9	8.2
	1967--	8.2	6.2	(NA)	7.2	(NA)	5.7	5.7	6.7	8.8
101st to 150th largest	1987--	5.6	4.6	4.2	5.0	4.5	4.2	4.2	4.5	6.1
	1982--	5.9	5.1	4.8	5.6	5.2	4.5	4.5	5.1	7.1
	1977--	6.1	4.8	4.6	5.3	5.1	4.6	4.7	5.3	6.2
	1972--	5.7	5.3	5.1	5.5	5.3	5.2	5.3	5.6	6.1
	1967--	5.1	4.3	(NA)	4.6	(NA)	4.0	4.1	4.4	5.3
151st to 200th largest	1987--	4.2	3.4	3.4	3.8	3.8	3.4	3.4	3.8	3.7
	1982--	4.5	3.8	3.5	4.4	4.0	3.5	3.5	4.2	5.0
	1977--	4.3	3.7	3.5	4.0	3.7	3.4	3.5	3.8	4.5
	1972--	3.8	3.1	(NA)	3.4	(NA)	2.9	2.9	3.2	3.8
	1967--	3.8	3.1	(NA)	3.4	(NA)	2.9	2.9	3.2	3.8
200 largest	1987--	43.2	30.6	28.8	39.8	37.5	26.8	27.2	36.3	42.9
	1982--	43.2	32.7	30.7	41.5	38.8	28.4	28.5	37.3	44.0
	1977--	43.7	33.4	31.9	42.1	40.0	31.0	31.8	40.4	45.3
	1972--	43.1	34.6	32.7	41.8	39.8	31.7	32.5	39.6	43.2
	1967--	41.6	33.7	(NA)	40.3	(NA)	30.4	30.7	36.8	42.6

Note: All percentages are independently rounded and do not necessarily add to totals.

¹Includes employees in auxiliaries serving manufacturing establishments.

²Excludes employees in auxiliaries serving manufacturing establishments and, thus, represents operating manufacturing establishments.

³Includes a substantial, but unmeasurable amount of duplication because of shipments of materials and products among manufacturing establishments for further processing.

Table 3. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Major Group: 1987

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Major group ¹	Companies ² (number)	Value of shipments ³					Herfindahl-Hirschman Index for 50 largest companies ⁵	
			Total (million dollars)	Percent accounted for by ⁴ —					
				4 largest companies	8 largest companies	20 largest companies	50 largest companies		
20	All Industries	310 341	2 475 901.0	9	12	18	27	36	
20	Food and kindred products	15 692	329 725.4	11	18	32	47	68	
21	Tobacco products	98	20 757.1	82	94	99	99+	2 345	
22	Textile mill products	4 982	62 786.4	15	25	38	52	113	
23	Apparel and other textile products	21 301	64 242.6	10	14	20	29	36	
24	Lumber and wood products	32 014	69 746.7	11	16	23	31	45	
25	Furniture and fixtures	10 775	37 461	10	15	25	36	47	
26	Paper and allied products	4 215	108 988.7	18	30	52	68	172	
27	Printing and publishing	57 376	136 195.6	7	13	23	34	34	
28	Chemicals and allied products	8 313	229 546.1	14	21	34	53	97	
29	Petroleum and coal products	1 320	130 414.0	30	49	72	89	375	
30	Rubber and miscellaneous plastics products	12 149	86 634.3	9	13	21	31	46	
31	Leather and leather products	1 965	9 082.4	13	21	36	55	95	
32	Stone, clay, and glass products	12 682	61 476.6	11	18	30	41	62	
33	Primary metal industries	5 400	120 248.2	17	26	41	55	121	
34	Fabricated metal products	32 470	147 366.1	9	13	18	26	33	
35	Industrial machinery and equipment	48 900	217 669.9	13	17	26	37	70	
36	Electronic and other electric equipment	13 523	171 286.4	19	27	39	52	129	
37	Transportation equipment	9 158	332 935.7	52	64	76	85	1 044	
38	Instruments and related products	8 962	107 324.8	19	28	44	60	150	
39	Miscellaneous manufacturing industries	16 082	32 012.0	6	10	16	25	19	

¹Industry group codes are based on 1987 Standard Industrial Classification (SIC) manual. This classification system represents a substantial revision from the previous 1972 edition that was put into effect with the final reports in the 1972 Census. See the introductory and explanatory texts for a complete description of the SIC system and this revision.

²Determination of company affiliation of establishments is based on census reports and publicly available records. Value of shipment totals have been summarized into company totals in each manufacturing industry group. The "largest" companies are determined by each company's value of shipments in the specified industry group.

³Value of shipments includes a substantial, but immeasurable amount of duplication due to the shipment of materials and products among manufactures for further processing.

⁴Percentages consist of the sum of value of shipments of the 4 largest companies (or 8, 20, or 50 companies), divided by total value of shipments of the industry.

⁵The Herfindahl Index was a new item for the 1982 Concentration Ratios in Manufacturing publication. See the Explanatory Text for a complete description of this index.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
20	FOOD AND KINDRED PRODUCTS														
2011	Meat packing plants ⁹	1987—	1 328	5 266.9	32	50	66	80	403	98	100				
		1982—	1 658	5 824.6	29	43	61	75	325	98	85				
		1977—	2 404	4 010.1	19	37	49	62	(NA)	98	84				
		¹⁰ 1972—	2 291	2 968.1	22	37	51	66	(NA)	98	84				
		1970—	(NA)	2 630.1	23	37	(NA)	(NA)	(NA)	(NA)	1				
		1967—	2 529	2 220.5	26	38	50	62	(NA)	98	85				
		1966—	(NA)	2 025.5	27	39	(NA)	(NA)	(NA)	(NA)	2				
		1963—	2 833	1 908.3	31	42	54	64	(NA)	98	86				
		1958—	2 646	1 677.1	34	46	57	65	(NA)	98	88				
		1954—	2 228	1 394.5	39	51	60	(NA)	(NA)	98	87				
		1947—	1 999	977.1	41	54	63	(NA)	(NA)	(NA)	(X)				
2013	Sausages and other prepared meats ⁹	1987—	1 207	4 457.0	26	34	46	61	222	96	98				
		1982—	1 193	2 900.9	19	28	41	58	145	97	61				
		1977—	1 213	2 039.0	23	30	39	57	(NA)	97	60				
		¹⁰ 1972—	1 207	1 099.9	19	26	38	54	(NA)	97	52				
		1970—	(NA)	917.0	16	(S)	(NA)	(NA)	(NA)	(NA)	3				
		1967—	1 294	742.5	15	22	34	51	(NA)	96	46				
		1966—	(NA)	624.6	16	23	(NA)	(NA)	(NA)	(NA)	3				
		1963—	1 273	563.4	16	23	35	51	(NA)	94	38				
2015	Poultry slaughtering and processing ¹¹	1987—	284	16 553.3	28	41	60	81	305	98	98				
2021	Creamery butter	1987—	44	1 420.4	40	63	94	100	661	76	64				
		1982—	61	1 686.8	41	61	92	99+	663	77	64				
		1977—	123	900.5	49	66	85	95	(NA)	80	61				
		1972—	201	808.3	45	58	78	92	(NA)	71	70				
		1970—	(NA)	806.3	(S)	(S)	(NA)	(NA)	(NA)	(NA)	5				
		1967—	510	958.8	15	22	36	60	(NA)	71	75				
		1966—	(NA)	975.6	(S)	(S)	(NA)	(NA)	(NA)	(NA)	4				
		1963—	725	988.8	11	19	31	48	(NA)	69	77				
		1958—	997	947.4	11	18	28	45	(NA)	70	80				
		1954—	1 172	926.4	16	24	34	(NA)	(NA)	74	77				
		¹² 1947—	1 482	844.7	18	24	32	(NA)	(NA)	79	84				
2022	Cheese, natural and processed	1987—	508	12 971.0	43	55	68	82	775	86	95				
		1982—	575	10 762.8	34	47	62	76	463	89	92				
		1977—	660	6 126.0	35	48	62	76	(NA)	91	93				
		1972—	739	3 195.0	42	53	65	77	(NA)	89	98				
		1970—	(NA)	2 175.7	43	52	(NA)	(NA)	(NA)	(NA)	2				
		1967—	891	1 707.8	44	51	61	72	(NA)	93	98				
		1966—	(NA)	1 552.3	44	51	(NA)	(NA)	(NA)	(NA)	9				
		1963—	982	1 170.8	44	51	59	69	(NA)	93	96				

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)			
			Percent accounted for by ⁴ —										
			Total (million dollars)	4 largest companies	8 largest companies	20 largest companies	50 largest companies						
20	FOOD AND KINDRED PRODUCTS—Con.												
2023	Dry, condensed, and evaporated dairy products	1987--	124	5 856.7	45	59	79	95	662	84	75	(X)	
		1982--	132	4 730.7	35	50	74	95	463	78	68	(X)	
		1977--	167	3 188.5	30	46	71	92	(NA)	79	76	(X)	
		1972--	172	1 667.8	39	58	76	92	(NA)	80	68	(X)	
		1970--	(NA)	1 352.0	39	(S)	(NA)	(NA)	(NA)	(NA)	1		
		1967--	179	1 263.0	41	56	74	90	(NA)	82	71	(X)	
		1966--	(NA)	1 099.5	45	59	(NA)	(NA)	(NA)	(NA)	3		
		1963--	167	937.9	40	53	71	90	(NA)	80	66	(X)	
2024	Ice cream and frozen desserts	1987--	469	3 916.5	25	39	62	83	276	93	78	(X)	
		1982--	482	2 855.1	22	34	55	79	244	94	73	(X)	
		1977--	507	2 008.6	28	40	60	79	(NA)	94	75	(X)	
		1972--	561	1 244.7	29	40	58	75	(NA)	96	70	(X)	
		1970--	(NA)	1 146.2	30	41	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1967--	713	1 059.4	33	43	60	73	(NA)	97	73	(X)	
		1966--	(NA)	1 142.2	33	44	(NA)	(NA)	(NA)	(NA)	4		
		1963--	901	1 076.5	37	48	64	74	(NA)	93	74	(X)	
		1958--	1 171	877.7	38	48	59	69	(NA)	94	71	(X)	
		1954--	1 375	727.4	36	45	57	(NA)	(NA)	93	70	(X)	
		1947--	1 273	611.8	40	48	57	(NA)	(NA)	90	87	(X)	
2026	Fluid milk	1987--	652	20 590.5	21	32	48	67	195	85	93	(X)	
		1982--	853	18 736.0	16	27	48	66	151	83	92	(X)	
		1977--	1 516	13 786.2	18	28	43	60	(NA)	88	94	(X)	
		1972--	2 025	9 395.7	18	26	42	56	(NA)	88	96	(X)	
		1970--	(NA)	8 253.3	20	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	2 988	7 826.0	22	30	42	51	(NA)	90	96	(X)	
		1966--	(NA)	7 434.9	23	30	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1963--	4 030	7 025.9	23	30	40	48	(NA)	90	95	(X)	
		1958--	5 008	5 802.0	23	29	37	45	(NA)	90	95	(X)	
		¹³ 1954--	(NA)	4 586.8	22	28	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
2032	Canned specialties ¹⁴	1987--	183	5 350.1	59	75	91	98	1 591	78	92	(X)	
		1982--	171	4 140.8	62	77	91	98	1 532	78	90	(X)	
		1977--	172	2 829.2	63	77	92	98	(NA)	80	89	(X)	
		¹⁰ 1972--	178	1 876.6	67	81	94	98	(NA)	81	91	(X)	
		1970--	(NA)	1 634.2	66	81	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	150	1 361.9	69	83	94	99	(NA)	82	91	(X)	
		1966--	(NA)	1 456.9	63	79	(NA)	(NA)	(NA)	(NA)	2		
		1963--	154	1 169.3	67	83	94	99	(NA)	80	91	(X)	
2033	Canned fruits and vegetables ¹⁴	1987--	462	11 889.5	29	40	58	78	301	90	84	(X)	
		1982--	514	9 283.4	21	35	54	74	214	89	87	(X)	
		1977--	648	6 662.8	22	35	55	75	(NA)	90	89	(X)	
		1972--	765	4 043.8	20	31	53	71	(NA)	89	94	(X)	
		1970--	(NA)	3 629.1	21	33	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	930	3 467.8	22	34	52	70	(NA)	90	93	(X)	
		1966--	(NA)	3 215.8	24	35	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	1 135	2 742.8	24	34	50	68	(NA)	89	91	(X)	
2034	Dehydrated fruits, vegetables, and soups	1987--	107	1 821.9	39	58	86	98	587	93	79	(X)	
		1982--	119	1 745.1	42	59	84	97	600	94	93	(X)	
		1977--	143	1 142.4	37	53	77	94	(NA)	94	88	(X)	
		1972--	133	607.3	33	51	76	94	(NA)	95	88	(X)	
		1970--	(NA)	464.3	33	52	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1967--	134	420.8	32	50	75	96	(NA)	94	86	(X)	
		1966--	(NA)	395.2	31	50	(NA)	(NA)	(NA)	(NA)	(NA)	4	
		1963--	126	318.7	37	56	80	96	(NA)	96	89	(X)	
		1958--	130	267.3	45	66	82	98	(NA)	97	93	(X)	
		1954--	119	192.2	48	69	87	(NA)	(NA)	95	97	(X)	
		1947--	120	51.1	56	71	86	(NA)	(NA)	96	90	(X)	
2035	Pickles, sauces, and salad dressings ¹⁴	1987--	344	5 050.3	43	55	68	84	728	78	86	(X)	
		1982--	325	4 268.8	56	65	76	89	1 697	68	83	(X)	
		¹⁵ 1977--	380	2 996.5	55	62	73	86	(NA)	69	86	(X)	
		1972--	429	1 166.7	33	46	62	81	(NA)	80	78	(X)	
		1970--	(NA)	1 114.5	38	51	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1967--	479	818.9	33	44	62	80	(NA)	81	80	(X)	
		1966--	(NA)	817.5	33	44	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1963--	541	677.3	36	46	64	79	(NA)	79	82	(X)	
2037	Frozen fruits and vegetables ¹⁴	1987--	194	6 606.2	31	45	63	86	344	91	93	(X)	
		1982--	195	5 374.6	27	42	63	86	306	93	93	(X)	
		1977--	187	3 297.5	22	40	65	86	(NA)	89	89	(X)	
		¹⁶ 1972--	136	1 846.8	29	43	69	91	(NA)	86	91	(X)	
		1970--	(NA)	2 810.2	26	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	495	2 081.6	24	36	55	74	(NA)	92	90	(X)	
		1966--	(NA)	1 884.6	24	37	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	566	1 548.7	24	37	54	70	(NA)	89	89	(X)	
2038	Frozen specialties, n.e.c. ¹⁴ ¹⁷	1987--	244	5 624.8	43	59	78	92	593	93	94	(X)	
2041	Flour and other grain mill products	1987--	237	4 984.8	44	63	83	95	645	98	97	(X)	
		1982--	251	4 932.8	40	60	78	94	551	97	70	(X)	
		1977--	301	3 683.3	33	54	76	91	(NA)	98	71	(X)	
		1972--	340	2 380.0	33	53	75	91	(NA)	97	74	(X)	
		1970--	(NA)	2 410.1	30	46	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	438	2 457.4	30	46	70	89	(NA)	93	78	(X)	
		1966--	(NA)	2 344.9	31	47	(NA)	(NA)	(NA)	(NA)	(NA)	4	
		1963--	510	2 176.5	35	50	71	88	(NA)	94	78	(X)	
		1958--	703	1 970.0	38	51	68	85	(NA)	93	85	(X)	
		1954--	692	1 858.9	40	52	68	(NA)	(NA)	94	84	(X)	
		1947--	1 084	2 526.6	29	41	57	(NA)	(NA)	92	92	(X)	
		1935--	(NA)	853.2	29	37	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)			
			Total (million dollars)	Percent accounted for by ⁴ —									
				4 largest companies	8 largest companies	20 largest companies	50 largest companies						
20	FOOD AND KINDRED PRODUCTS—Con.												
2043	Cereal breakfast foods	1987--	33	6 565.7	87	99	99+	100	2 207	79	98	(X)	
		1982--	32	4 131.9	86	(D)	(D)	100	(X)	77	96	(X)	
		1977--	32	2 497.5	89	98	99+	100	(NA)	74	93	(X)	
		1972--	34	1 125.5	90	98	99+	100	(NA)	77	84	(X)	
		1970--	(NA)	953.1	90	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	30	793.0	88	97	99+	100	(NA)	81	82	(X)	
		1966--	(NA)	742.9	87	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	35	625.1	86	96	99+	100	(NA)	80	86	(X)	
		1958--	34	433.0	83	95	99+	100	(NA)	80	81	(X)	
		1954--	37	345.8	88	95	99+	100	(NA)	77	80	(X)	
		1947--	55	284.3	79	91	98	(NA)	(NA)	68	87	(X)	
		1935--	(NA)	(NA)	68	82	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
2044	Rice milling ¹⁷	1987--	48	1 234.9	56	81	96	100	987	98	95	(X)	
2045	Prepared flour mixes and doughs ¹⁷	1987--	120	2 625.1	43	60	81	96	642	89	78	(X)	
2046	Wet corn milling	1987--	31	4 788.9	74	94	99+	100	1 639	88	94	(X)	
		1982--	25	3 268.4	74	94	100	(X)	1 491	89	92	(X)	
		1977--	24	2 014.8	63	89	99+	100	(NA)	94	93	(X)	
		1972--	26	832.3	63	86	99+	100	(NA)	93	97	(X)	
		1970--	(NA)	830.5	64	88	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	32	751.3	68	89	99+	100	(NA)	84	96	(X)	
		1966--	(NA)	755.3	67	90	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1963--	49	622.4	71	93	99	100	(NA)	83	93	(X)	
		1958--	53	522.0	73	92	99	99+	(NA)	91	96	(X)	
		1954--	54	458.4	75	93	99	99+	(NA)	91	96	(X)	
		1947--	47	460.0	77	95	99+	100	(NA)	88	96	(X)	
		1935--	(NA)	(NA)	79	95	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
2047	Dog and cat food ¹⁷	1987--	130	5 069.3	61	78	89	97	1 509	99	97	(X)	
2048	Prepared feeds, n.e.c. ¹⁷	1987--	1 182	11 468.2	20	29	45	63	168	98	96	(X)	
2051	Bread, cake, and related products	1987--	1 948	16 221.1	34	47	64	77	412	97	99	(X)	
		1982--	1 869	13 143.3	34	47	60	73	410	97	98	(X)	
		1977--	2 549	9 274.9	33	40	54	68	(NA)	99	98	(X)	
		1972--	2 800	6 132.0	29	39	50	62	(NA)	98	99	(X)	
		1970--	(NA)	5 607.2	29	39	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	3 445	5 102.7	26	38	47	58	(NA)	97	99	(X)	
		1966--	(NA)	5 007.2	25	37	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	4 339	4 506.0	23	35	45	56	(NA)	98	99	(X)	
		1958--	5 305	3 699.5	22	33	42	51	(NA)	98	99	(X)	
		1954--	5 470	3 067.0	20	31	40	(NA)	(NA)	98	99	(X)	
		1947--	5 985	2 403.6	16	26	36	(NA)	(NA)	98	99	(X)	
2052	Cookies and crackers	1987--	316	6 290.8	58	73	86	94	1 278	95	94	(X)	
		1982--	296	4 664.9	59	71	85	94	1 401	95	94	(X)	
		1977--	263	2 960.5	59	68	83	93	(NA)	94	94	(X)	
		1972--	257	1 763.5	59	69	83	93	(NA)	98	95	(X)	
		1970--	(NA)	1 545.6	59	70	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	286	1 363.8	59	70	82	91	(NA)	97	93	(X)	
		1966--	(NA)	1 327.3	59	68	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	286	1 150.1	59	68	80	91	(NA)	97	95	(X)	
2053	Frozen bakery products, except bread ¹¹	1987--	103	1 165.4	59	75	88	97	1 472	93	78	(X)	
2061	Raw cane sugar	1987--	31	1 239.4	48	70	92	100	829	(D)	(D)	(X)	
		1982--	43	1 113.9	41	61	86	100	628	100	100	(X)	
		1977--	49	704.0	42	62	86	100	(NA)	100	99	(X)	
		1972--	61	406.5	44	62	84	99+	(NA)	100	96	(X)	
		1970--	(NA)	364.4	45	63	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1987--	61	368.5	43	65	82	99+	(NA)	100	100	(X)	
		1966--	(NA)	313.5	50	72	(NA)	(NA)	(NA)	(NA)	(NA)	7	
		¹⁸ 1963--	50	378.7	47	65	82	100	(NA)	99	100	(X)	
2062	Cane sugar refining	1987--	14	2 460.2	87	99+	100	(X)	2 310	100	99	(X)	
		1982--	19	3 040.3	65	91	100	(X)	1 416	100	100	(X)	
		1977--	27	2 260.0	63	90	99+	100	(NA)	99	100	(X)	
		1972--	22	1 742.7	59	85	99+	100	(NA)	99	98	(X)	
		1970--	(NA)	1 583.8	59	86	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	22	1 375.7	59	82	99+	100	(NA)	100	100	(X)	
		1966--	(NA)	1 219.9	63	87	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		¹⁸ 1963--	16	1 271.2	63	83	100	(X)	(NA)	100	100	(X)	
2063	Beet sugar	1987--	14	1 831.5	72	96	(D)	(X)	1 570	100	99	(X)	
		1982--	14	1 515.8	67	95	100	(X)	1 396	100	100	(X)	
		1977--	14	1 181.7	67	95	100	(X)	(NA)	99	99	(X)	
		1972--	16	880.2	66	96	100	(X)	(NA)	99	100	(X)	
		1970--	(NA)	726.6	65	(D)	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	15	560.7	66	96	100	(X)	(NA)	100	100	(X)	
		1966--	(NA)	579.5	68	97	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	11	564.1	66	97	100	(X)	(NA)	100	100	(X)	
		1958--	15	382.1	64	94	100	(X)	(NA)	100	100	(X)	
		1954--	15	291.2	66	96	100	(X)	(NA)	100	100	(X)	
		1947--	17	262.9	68	94	100	(X)	(NA)	100	100	(X)	
		1935--	(NA)	(NA)	68	89	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
2064	Candy and other confectionery products ¹¹	1987--	623	6 979.8	45	55	70	82	760	96	94	(X)	
2066	Chocolate and cocoa products ¹⁷	1987--	173	3 107.7	69	82	95	98	1 835	93	91	(X)	

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)			
			Total (million dollars)	Percent accounted for by ⁴ —									
				4 largest companies	8 largest companies	20 largest companies	50 largest companies						
20 FOOD AND KINDRED PRODUCTS—Con.													
2067	Chewing gum	8	1 090.3	96	100	(X)	(X)	(D)	(D)	(D)			
	1982	9	915.3	95	(D)	(X)	(X)	79	77	(X)			
	1977	14	566.5	93	99	100	(X)	92	88	(X)			
	1972	15	382.6	87	98	100	(X)	90	88	(X)			
	1970	(NA)	407.7	85	97	(NA)	(NA)	(NA)	(NA)	1			
	1967	19	303.7	86	96	100	(X)	(NA)	86	95			
	1966	(NA)	281.7	88	96	(NA)	(NA)	(NA)	(NA)	2			
	1963	20	244.8	90	97	100	(X)	(NA)	88	96			
	1958	24	184.3	89	96	99+	100	(NA)	91	96			
	1954	27	158.1	86	94	99+	100	(NA)	95	98			
	1947	35	148.3	70	87	98	100	(NA)	(D)	(X)			
	1935	(NA)	(NA)	97	97	(NA)	(NA)	(NA)	(NA)	(X)			
2068	Salted and roasted nuts and seeds ¹¹	79	2 178.0	43	60	81	98	688	91	94			
2074	Cottonseed oil mills	31	470.7	43	68	97	100	718	97	93			
	1982	47	933.3	51	70	92	100	834	94	97			
	1977	62	859.2	45	62	85	99+	(NA)	88	89			
	1972	74	458.7	43	61	80	99	(NA)	85	88			
	1970	(NA)	375.8	39	(S)	(NA)	(NA)	(NA)	(NA)	3			
	1967	91	405.9	42	60	80	96	(NA)	85	85			
	1966	(NA)	560.8	38	56	(NA)	(NA)	(NA)	(NA)	5			
	1963	115	555.2	41	56	72	91	(NA)	89	91			
	1958	125	383.4	42	54	71	91	(NA)	92	92			
	1954	145	546.4	47	57	72	(NA)	(NA)	96	93			
	1947	177	518.1	43	55	68	(NA)	(NA)	90	99			
	1935	(NA)	187.9	32	43	(NA)	(NA)	(NA)	(NA)	(X)			
2075	Soybean oil mills	47	9 074.1	71	91	99+	100	1 661	90	98			
	1982	52	8 603.6	61	83	(D)	(D)	1 204	88	95			
	1977	65	7 580.0	54	73	94	99+	(NA)	87	98			
	1972	54	3 357.2	54	69	92	99+	(NA)	85	96			
	1970	(NA)	2 609.9	56	73	(NA)	(NA)	(NA)	(NA)	1			
	1967	60	2 148.3	55	76	94	99+	(NA)	86	96			
	1966	(NA)	2 009.8	57	78	(NA)	(NA)	(NA)	(NA)	2			
	1963	68	1 473.4	50	70	88	99+	(NA)	89	95			
	1958	66	999.2	40	63	86	99+	(NA)	87	94			
	1954	55	826.4	41	64	89	(NA)	(NA)	88	96			
	1947	105	585.7	44	63	81	(NA)	(NA)	96	80			
2076	Vegetable oil mills, n.e.c.	20	431.5	74	92	100	(X)	1 736	88	72			
	1982	26	556.9	52	83	99+	100	992	93	78			
	1977	37	360.8	54	80	98	100	(NA)	86	58			
	1972	28	261.0	70	89	99+	100	(NA)	93	63			
	1970	(NA)	237.5	60	84	(NA)	(NA)	(NA)	(NA)	1			
	1967	34	236.7	56	78	99	100	(NA)	80	74			
	1966	(NA)	265.7	53	76	(NA)	(NA)	(NA)	(NA)	18			
	1963	39	234.2	58	83	99	100	(NA)	84	83			
	¹⁹ 1958	38	216.1	66	93	(NA)	100	(NA)	80	93			
2077	Animal and marine fats and oils	194	1 753.1	35	50	72	88	539	97	71			
	1982	270	1 752.5	34	48	66	84	414	97	68			
	1977	384	1 655.0	28	40	58	75	(NA)	94	68			
	1972	402	764.7	28	37	52	70	(NA)	94	68			
	1970	(NA)	790.1	(S)	(S)	(NA)	(NA)	(NA)	(NA)	8			
	1967	477	557.9	28	36	49	66	(NA)	94	67			
	1966	(NA)	765.3	25	32	(NA)	(NA)	(NA)	(NA)	12			
	1963	516	474.0	23	31	43	61	(NA)	94	66			
	²⁰ 1958	(NA)	362.4	20	30	(NA)	(NA)	(NA)	(NA)	(X)			
2079	Edible fats and oils, n.e.c.	67	4 151.1	45	65	89	99+	716	90	77			
	1982	79	4 905.6	43	60	84	99	629	85	77			
	1977	66	4 025.0	43	63	90	99+	(NA)	89	77			
	1972	64	2 068.1	44	70	93	99+	(NA)	89	78			
	1970	(NA)	1 887.5	46	72	(NA)	(NA)	(NA)	(NA)	1			
	1967	63	1 725.6	43	67	93	99+	(NA)	87	86			
	1966	(NA)	1 687.4	47	73	(NA)	(NA)	(NA)	(NA)	2			
	1963	65	1 324.3	42	64	92	99+	(NA)	88	89			
	²¹ 1958	62	1 152.6	44	69	(NA)	(NA)	(NA)	93	90			
2082	Malt beverages	101	13 618.6	87	98	99+	99+	(D)	100	100			
	1982	67	11 183.2	77	94	99	99+	2 089	100	100			
	1977	81	6 652.6	64	83	98	99+	(NA)	100	100			
	1972	108	4 054.4	52	70	91	99	(NA)	100	100			
	1970	(NA)	3 684.6	46	64	(NA)	(NA)	(NA)	(NA)	1			
	1967	125	2 929.7	40	59	86	98	(NA)	100	100			
	1966	(NA)	2 699.9	39	56	(NA)	(NA)	(NA)	(NA)	2			
	²² 1963	171	2 315.1	34	52	78	94	(NA)	100	100			
	1958	211	1 979.7	28	44	68	88	(NA)	100	100			
	1954	263	1 857.1	27	41	60	(NA)	(NA)	100	100			
	1947	404	1 316.0	21	30	44	(NA)	(NA)	100	99			
	1935	(NA)	(NA)	11	17	(NA)	(NA)	(NA)	(NA)	(X)			
2083	Malt	15	530.9	64	95	100	(X)	1 349	100	98			
	1982	24	661.5	60	83	99	100	1 168	100	(X)			
	1977	27	499.3	59	81	98	100	(NA)	100	100			
	1972	30	226.3	48	74	98	100	(NA)	97	99			
	1970	(NA)	202.8	(S)	(S)	(NA)	(NA)	(NA)	(NA)	2			
	1967	32	216.5	39	62	94	100	(NA)	97	100			
	1966	(NA)	205.5	41	64	(NA)	(NA)	(NA)	(NA)	3			
	1963	29	183.5	38	62	95	100	(NA)	100	95			
	1958	32	183.4	50	70	95	100	(NA)	100	98			
	1954	35	202.0	49	69	93	100	(NA)	100	100			
	1947	41	256.2	49	69	92	100	(NA)	100	100			
	1935	(NA)	(NA)	44	65	(NA)	(NA)	(NA)	(NA)	(X)			

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			Total (million dollars)	Percent accounted for by ⁴									
				4 largest companies	8 largest companies	20 largest companies	50 largest companies						
20	FOOD AND KINDRED PRODUCTS—Con.												
2084	Wines, brandy, and brandy spirits ⁹	1987- 1982- 1977- 1972- 1970- 1967- 1966- 1963- 1958- 1954- 231947-	469	1 380.0	37	53	76	87	657	99	98	(X)	
			324	996.7	51	64	84	93	794	98	98	(X)	
			233	362.5	49	62	84	94	(NA)	98	97	(X)	
			183	407.9	53	68	84	95	(NA)	98	96	(X)	
			(NA)	278.4	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
			175	196.8	48	63	81	68	(NA)	97	94	(X)	
			(NA)	193.4	41	56	(NA)	(NA)	(NA)	(NA)	(NA)	10	
			194	137.3	44	62	76	90	(NA)	98	99	(X)	
			216	101.7	35	50	70	87	(NA)	98	96	(X)	
			244	96.7	38	54	71	(NA)	(NA)	(NA)	(NA)	(X)	
			379	95.0	26	42	55	(NA)	(NA)	(NA)	100	(X)	
2085	Distilled and blended liquors ¹⁴		48	3 474.3	53	75	93	100	883	99	95	(X)	
			71	3 126.1	46	68	89	99+	741	97	96	(X)	
			64	2 296.1	52	71	91	99+	(NA)	98	98	(X)	
			76	1 797.9	47	73	91	99	(NA)	98	99	(X)	
			(NA)	1 757.8	47	68	(NA)	(NA)	(NA)	(NA)	(NA)	4	
			70	1 364.2	54	71	88	99	(NA)	98	98	(X)	
			(NA)	1 331.6	55	72	(NA)	(NA)	(NA)	(NA)	(NA)	5	
			70	1 090.5	58	74	92	99	(NA)	98	99	(X)	
			88	830.2	60	77	94	99	(NA)	98	100	(X)	
			98	711.3	64	79	93	(NA)	(NA)	99	100	(X)	
			144	870.2	75	86	95	(NA)	(NA)	99	99	(X)	
			(NA)	51	71	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
2086	Bottled and canned soft drinks	1987- 1982- 1977- 1972- 1970- 1967- 1966- 1963- 1958- 1954- 1947- 1935-	846	21 830.4	30	40	51	68	332	98	96	(X)	
			1 236	16 807.5	14	23	39	56	109	98	96	(X)	
			1 758	10 007.2	15	22	36	50	(NA)	98	97	(X)	
			2 273	5 453.8	14	21	32	44	(NA)	98	97	(X)	
			(NA)	4 605.3	13	20	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			3 057	3 173.2	13	20	28	38	(NA)	98	96	(X)	
			(NA)	2 734.9	14	20	(NA)	(NA)	(NA)	(NA)	(NA)	2	
			3 569	2 210.9	12	17	24	34	(NA)	98	95	(X)	
			3 989	1 434.9	11	15	22	28	(NA)	98	98	(X)	
			4 334	1 113.1	10	14	21	(NA)	(NA)	98	99	(X)	
			5 169	748.2	10	14	20	(NA)	(NA)	99	99	(X)	
			(NA)	8	13	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
2087	Flavoring extracts and syrups, n.e.c.		245	4 664.8	65	73	83	92	2 035	96	89	(X)	
			297	4 236.8	65	71	81	90	1 557	93	88	(X)	
			319	2 511.3	64	71	78	88	(NA)	92	86	(X)	
			350	1 472.0	66	74	82	89	(NA)	87	86	(X)	
			(NA)	1 318.8	61	69	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			401	1 009.1	67	75	82	90	(NA)	94	85	(X)	
			(NA)	974.4	63	71	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			492	729.7	62	70	78	86	(NA)	90	78	(X)	
			498	494.9	55	67	78	87	(NA)	90	83	(X)	
			530	446.1	53	63	75	(NA)	(NA)	91	87	(X)	
			582	313.6	50	58	68	(NA)	(NA)	93	89	(X)	
			(NA)	47	54	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
2091	Canned and cured fish and seafoods ¹⁴	1987- 1982- 1977- 1972- 1970- 1967- 181963-	153	767.0	26	42	69	89	322	88	76	(X)	
			170	1 849.1	62	70	81	93	1 683	(D)	91	(X)	
			215	1 440.6	52	65	79	91	(NA)	81	96	(X)	
			258	809.8	50	65	77	89	(NA)	87	92	(X)	
			(NA)	660.9	53	69	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			268	523.1	44	59	73	85	(NA)	92	95	(X)	
			(NA)	548.1	42	56	(NA)	(NA)	(NA)	(NA)	(NA)	4	
			345	452.5	38	51	56	80	(NA)	92	95	(X)	
2092	Fresh or frozen prepared fish ¹⁴	1987- 1982- 241977- 1972- 1970- 1967- 1966- 1963- 1958- 251954-	579	5 783.0	18	30	51	68	169	96	97	(X)	
			697	4 009.1	14	24	42	60	118	97	97	(X)	
			906	2 664.9	14	23	42	59	(NA)	97	97	(X)	
			470	1 084.4	20	32	53	74	(NA)	96	96	(X)	
			(NA)	655.0	25	38	(NA)	(NA)	(NA)	(NA)	(NA)	2	
			463	557.4	26	38	56	72	(NA)	97	94	(X)	
			(NA)	492.7	33	48	(NA)	(NA)	(NA)	(NA)	(NA)	6	
			528	391.2	25	38	53	68	(NA)	95	94	(X)	
			429	282.7	18	30	47	66	(NA)	93	96	(X)	
			288	164.6	24	37	56	(NA)	(NA)	94	95	(X)	
2095	Roasted coffee		110	6 400.6	66	78	91	98	1 589	94	99	(X)	
			118	5 826.9	65	76	90	98	1 536	94	98	(X)	
			133	5 616.4	61	73	89	97	(NA)	96	98	(X)	
			162	2 328.7	65	79	92	97	(NA)	94	97	(X)	
			(NA)	2 405.5	58	74	(NA)	(NA)	(NA)	(NA)	(NA)	1	
			206	2 092.2	53	71	87	96	(NA)	91	99	(X)	
			(NA)	2 082.5	54	70	(NA)	(NA)	(NA)	(NA)	(NA)	2	
			261	1 868.1	52	68	84	94	(NA)	90	99	(X)	
2096	Potato chips and similar snacks ¹¹	1987- 1982- 1977- 1972- 1970- 1967- 1966- 1963- 1958- 1954- 1947- 1935-	277	5 040.8	(D)	73	83	93	(D)	98	94	(X)	
2097	Manufactured ice		503	289.6	19	25	38	55	126	100	98	(X)	
			530	229.5	18	26	40	56	125	100	98	(X)	
			543	149.4	24	38	49	61	(NA)	99	99	(X)	
			610	116.4	32	44	53	63	(NA)	100	99	(X)	
			(NA)	115.3	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	6	
			688	99.5	33	42	50	61	(NA)	100	99	(X)	
			(NA)	124.2	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	8	
			862	122.6	32	39	48	59	(NA)	99	100	(X)	
			1 099	130.1	31	41	49	59	(NA)	99	99	(X)	
			1 430	143.3	26	32	41	(NA)	(NA)	100	97	(X)	
			2 206	274.3	22	30	40	(NA)	(NA)	100	98	(X)	
			(NA)	20	28	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
2098	Macaroni and spaghetti ¹⁷		196	1 048.1	73	82	90	95	1 839	96	99	(X)	
2099	Food preparations, n.e.c. ¹⁷	1987-	1 510	9 787.3	26	34	47	61	227	91	80	(X)	

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁴	Primary product specialization ratio ⁵ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Percent accounted for by ⁴ —												
			Total (million dollars)	4 largest companies	8 largest companies	20 largest companies	50 largest companies								
21	TOBACCO PRODUCTS														
2111	Cigarettes ¹⁴	9	17 372.0	92	(D)	(D)	(X)	(D)	98	100	(X)				
	1982	8	12 126.8	(D)	(D)	(X)	(X)	2 623	97	(D)	(X)				
	1977	8	6 377.4	(D)	(D)	(X)	(X)	(NA)	97	99	(X)				
	1972	7	3 744.6	(D)	(D)	(X)	(X)	(NA)	96	100	(X)				
	1970	(NA)	3 503.4	84	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967	8	3 044.6	81	100	(X)	(X)	(NA)	97	100	(X)				
	1966	(NA)	2 860.3	81	100	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1963	7	2 655.3	80	100	(X)	(X)	(NA)	97	100	(X)				
	1958	12	2 159.1	79	99+	100	(X)	(NA)	99	100	(X)				
	1954	12	1 641.0	82	99+	100	(X)	(NA)	99	100	(X)				
	1947	19	1 131.9	90	99+	100	(X)	(NA)	96	100	(X)				
	1935	(NA)	(NA)	89	99	(NA)	(NA)	(NA)	(NA)	(NA)	(X)				
2121	Cigars ¹⁴	16	191.5	73	94	100	(X)	1 555	97	89	(X)				
	1982	54	253.7	60	82	97	99+	1 085	99	92	(X)				
	1977	94	242.7	56	79	95	99	(NA)	(D)	92	(X)				
	1972	113	338.7	56	81	95	99	(NA)	100	91	(X)				
	1970	(NA)	375.3	61	83	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967	126	363.7	59	83	96	99+	(NA)	100	98	(X)				
	1966	(NA)	378.8	58	82	(NA)	(NA)	(NA)	(NA)	(NA)	6				
	1963	164	358.5	59	81	92	99	(NA)	100	100	(X)				
	1958	247	351.6	54	75	86	99	(NA)	100	100	(X)				
	1954	375	339.5	44	64	80	(NA)	(NA)	99	100	(X)				
	1947	765	311.4	41	57	76	(NA)	(NA)	99	100	(X)				
	1935	(NA)	(NA)	38	50	(NA)	(NA)	(NA)	(NA)	(NA)	(X)				
2131	Chewing and smoking tobacco ¹⁴	23	1 114.3	85	97	99+	100	2 894	98	99	(X)				
	1982	22	665.4	87	97	(D)	(D)	2 564	(D)	84	(X)				
	1977	28	354.3	81	95	99+	100	(NA)	97	75	(X)				
	1972	28	180.2	71	92	99+	100	(NA)	96	64	(X)				
	1970	(NA)	178.5	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967	41	122.2	51	81	98	100	(NA)	96	58	(X)				
	1966	(NA)	146.9	59	82	(NA)	(NA)	(NA)	(NA)	(NA)	6				
	1963	45	139.5	58	83	98	100	(NA)	97	61	(X)				
	1958	52	173.7	57	82	98	99+	(NA)	98	88	(X)				
	1954	58	161.7	58	82	99	(NA)	(NA)	96	89	(X)				
	1947	65	140.1	61	81	98	(NA)	(NA)	98	86	(X)				
	1935	(NA)	(NA)	56	84	(NA)	(NA)	(NA)	(NA)	(NA)	(X)				
2141	Tobacco stemming and redrying ¹⁴	62	2 079.2	66	87	99	99+	1 325	100	84	(X)				
	1982	34	3 015.4	68	92	99+	100	1 423	(D)	(D)	(X)				
	1977	38	2 076.2	67	85	98	100	(NA)	(D)	94	(X)				
	1972	46	1 656.8	67	87	98	100	(NA)	100	97	(X)				
	1970	(NA)	1 288.3	66	87	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967	54	1 373.1	63	87	97	99+	(NA)	100	99	(X)				
	1966	(NA)	1 386.8	69	91	(NA)	(NA)	(NA)	(NA)	(NA)	5				
	1963	59	1 366.6	70	92	97	99+	(NA)	100	100	(X)				
	1958	64	1 037.0	73	90	96	99+	(NA)	100	100	(X)				
	1954	72	1 043.2	79	91	96	99+	(NA)	100	99	(X)				
	1947	93	957.8	88	95	97	(NA)	(NA)	100	98	(X)				
22	TEXTILE MILL PRODUCTS														
2211	Broadwoven fabric mills, cotton	246	5 508.3	42	59	81	96	640	87	88	(X)				
	1982	209	3 972.0	41	65	85	97	645	84	54	(X)				
	1977	211	4 431.2	39	58	79	95	(NA)	84	62	(X)				
	1972	190	2 660.6	31	48	72	93	(NA)	84	60	(X)				
	1970	(NA)	2 547.3	33	50	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967	218	3 327.7	30	48	68	88	(NA)	87	79	(X)				
	1966	(NA)	3 561.9	30	48	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1963	229	3 104.1	30	46	67	87	(NA)	92	80	(X)				
	1958	321	2 719.4	25	40	59	79	(NA)	94	82	(X)				
	1954	413	2 789.6	18	29	49	(NA)	(NA)	94	84	(X)				
2221	Broadwoven fabric mills, manmade fiber and silk	316	8 048.9	35	52	70	88	430	88	91	(X)				
	1982	342	8 191.2	40	53	69	85	510	89	62	(X)				
	1977	267	6 325.9	42	58	76	90	(NA)	86	63	(X)				
	1972	256	3 856.6	39	54	72	88	(NA)	81	74	(X)				
	1970	(NA)	3 138.1	42	54	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967	272	2 289.6	46	54	68	86	(NA)	85	74	(X)				
	1966	(NA)	2 240.9	40	50	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1963	277	1 722.4	39	48	64	82	(NA)	86	82	(X)				
	1958	328	1 230.7	34	44	62	78	(NA)	85	88	(X)				
	1954	396	1 142.6	30	39	55	(NA)	(NA)	87	90	(X)				
	1947	432	1 002.9	31	39	56	(NA)	(NA)	85	(NA)	(X)				
2231	Broadwoven fabric mills, wool	106	1 050.7	55	68	87	97	1 180	90	82	(X)				
	1982	115	762.8	45	59	85	97	1 048	88	75	(X)				
	1977	153	583.3	31	47	74	95	(NA)	83	80	(X)				
	1972	178	450.1	38	49	70	90	(NA)	84	83	(X)				
	1970	(NA)	770.4	54	62	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967	262	1 090.0	55	62	76	88	(NA)	82	96	(X)				
	1966	(NA)	1 166.8	56	62	(NA)	(NA)	(NA)	(NA)	(NA)	3				
	1963	304	1 010.7	51	58	71	85	(NA)	86	96	(X)				
2241	Narrow fabric mills	247	1 135.7	19	29	49	74	170	96	92	(X)				
	1982	241	851.8	20	31	53	78	209	95	97	(X)				
	1977	291	682.9	17	28	48	73	(NA)	96	97	(X)				
	1972	324	566.2	20	31	49	71	(NA)	93	97	(X)				
	1970	(NA)	513.7	27	37	(NA)	(NA)	(NA)	(NA)	(NA)	3				
	1967	345	445.1	19	31	48	70	(NA)	94	96	(X)				
	1966	(NA)	427.8	23	35	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1963	350	349.1	20	30	47	68	(NA)	91	97	(X)				

See footnotes at end of table.

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			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
22	TEXTILE MILL PRODUCTS—Con.														
2241	Narrow fabric mills—Con.														
	1958..	455	289.1	16	26	41	62	(NA)	94	97	(X)				
	1954..	489	250.2	13	21	37	(NA)	(NA)	96	94	(X)				
	²⁶ 1947..	445	215.2	17	25	41	(NA)	(NA)	95	98	(X)				
2251	Women's hosiery, except socks														
	1987..	139	1 497.5	61	72	88	97	1 501	98	96	(X)				
	1982..	180	1 411.3	58	66	81	95	1 539	95	91	(X)				
	1977..	176	871.2	50	62	78	94	(NA)	91	95	(X)				
	1972..	256	984.7	35	49	69	87	(NA)	94	97	(X)				
	1970..	(NA)	1 352.6	38	52	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967..	302	835.0	32	44	64	82	(NA)	97	95	(X)				
	1966..	(NA)	733.7	34	45	(NA)	(NA)	(NA)	(NA)	(NA)	7				
	1963..	363	606.6	34	47	64	79	(NA)	96	94	(X)				
2252	Hosiery, n.e.c.														
	1987..	375	1 952.1	24	34	51	72	229	98	98	(X)				
	1982..	376	1 443.4	20	29	48	70	192	92	95	(X)				
	1977..	382	921.3	20	30	46	66	(NA)	96	96	(X)				
	1972..	375	600.6	19	29	46	66	(NA)	95	94	(X)				
	1970..	(NA)	566.6	24	33	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1967..	423	550.1	25	32	46	65	(NA)	90	95	(X)				
	1966..	(NA)	576.4	22	28	(NA)	(NA)	(NA)	(NA)	(NA)	6				
	1963..	504	451.1	18	25	38	58	(NA)	91	96	(X)				
2253	Knit outerwear mills														
	1987..	806	3 264.9	24	33	49	66	229	94	90	(X)				
	1982..	896	3 182.4	19	29	45	64	156	95	53	(X)				
	1977..	903	2 335.9	17	27	46	63	(NA)	90	53	(X)				
	1972..	882	1 703.8	16	26	44	59	(NA)	92	63	(X)				
	1970..	(NA)	1 237.0	14	21	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1967..	1 156	1 288.0	15	22	33	47	(NA)	93	65	(X)				
	1966..	(NA)	1 273.1	14	21	(NA)	(NA)	(NA)	(NA)	(NA)	7				
	1963..	1 175	1 045.5	11	16	27	43	(NA)	93	68	(X)				
	²⁷ 1958..	1 111	744.3	7	10	20	35	(NA)	91	74	(X)				
	1954..	1 081	544.1	6	10	20	(NA)	(NA)	93	73	(X)				
	1947..	1 196	330.5	8	13	24	(NA)	(NA)	91	82	(X)				
2254	Knit underwear mills														
	1987..	58	1 058.1	64	81	96	99+	2 182	72	92	(X)				
	1982..	72	829.9	46	65	90	99+	886	88	93	(X)				
	1977..	80	648.9	42	59	85	99	(NA)	80	86	(X)				
	1972..	74	544.6	46	61	85	98	(NA)	90	94	(X)				
	1970..	(NA)	499.6	37	53	(NA)	(NA)	(NA)	(NA)	(NA)	4				
	1967..	99	445.3	36	54	77	95	(NA)	85	35	(X)				
	1966..	104	364.8	33	54	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	²⁷ 1958..	104	364.8	33	52	73	93	(NA)	89	38	(X)				
	1954..	140	256.3	26	40	64	87	(NA)	88	89	(X)				
	1947..	140	295.4	21	34	57	(NA)	(NA)	87	70	(X)				
2257	Weft knit fabric mills														
	1987..	304	3 578.5	30	45	64	81	338	94	95	(X)				
	1982..	384	2 538.8	22	36	55	75	220	92	93	(X)				
	1977..	462	3 169.4	20	31	51	73	(NA)	90	88	(X)				
	1972..	629	2 808.8	23	31	49	69	(NA)	93	91	(X)				
2258	Lace and warp knit fabric mills ¹⁷														
	1987..	216	1 991.9	36	49	66	83	525	97	92	(X)				
2259	Knitting mills, n.e.c.														
	1987..	79	187.6	51	67	85	97	812	98	79	(X)				
	1982..	71	114.5	45	61	83	99	813	97	81	(X)				
	1977..	191	95.7	30	42	59	80	(NA)	97	81	(X)				
	1972..	72	73.1	52	67	83	98	(NA)	93	78	(X)				
	1970..	(NA)	48.4	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	6				
	1967..	61	38.8	54	71	89	99	(NA)	96	19	(X)				
	1966..	(NA)	55.4	32	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	22				
	1963..	86	40.7	34	50	75	96	(NA)	93	22	(X)				
	²⁷ 1958..	71	29.2	34	54	(NA)	(NA)	(NA)	91	78	(X)				
2261	Finishing plants, cotton														
	1987..	184	1 385.0	25	40	65	87	296	85	73	(X)				
	1982..	266	753.8	42	63	81	92	647	85	40	(X)				
	1977..	194	759.5	29	47	75	93	(NA)	83	35	(X)				
	1972..	182	623.3	27	41	67	89	(NA)	79	41	(X)				
	1970..	(NA)	603.0	34	48	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967..	202	893.9	42	59	64	87	(NA)	75	58	(X)				
	1966..	(NA)	853.9	44	60	(NA)	(NA)	(NA)	(NA)	(NA)	4				
	1963..	220	869.7	45	59	77	92	(NA)	81	60	(X)				
2262	Finishing plants, manmade														
	1987..	245	4 391.9	58	72	82	92	1 173	79	91	(X)				
	1982..	265	3 186.2	(D)	68	80	91	1 646	82	66	(X)				
	1977..	248	2 404.3	60	70	80	91	(NA)	80	57	(X)				
	1972..	219	1 365.2	56	64	77	89	(NA)	77	57	(X)				
	1970..	(NA)	1 011.6	45	54	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967..	212	550.2	37	49	63	81	(NA)	90	45	(X)				
	1966..	(NA)	550.3	42	54	(NA)	(NA)	(NA)	(NA)	(NA)	3				
	1963..	193	323.7	31	44	61	81	(NA)	91	46	(X)				
2269	Finishing plants, n.e.c.														
	1987..	176	1 264.8	28	44	68	88	332	93	97	(X)				
	1982..	177	1 031.9	30	43	67	87	345	90	57	(X)				
	1977..	176	830.6	30	43	66	86	(NA)	95	43	(X)				
	1972..	189	637.3	(S)	(S)	86	(NA)	(NA)	92	54	(X)				
	1970..	(NA)	346.3	26	40	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1967..	187	290.9	29	44	64	86	(NA)	84	52	(X)				
	1966..	(NA)	273.0	32	48	(NA)	(NA)	(NA)	(NA)	(NA)	3				
	1963..	174	206.9	32	47	68	86	(NA)	89	64	(X)				
2273	Carpets and rugs ¹¹														
	1987..	419	9 795.0	34	49	72	87	421	97	99	(X)				

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —										
				4 largest companies	8 largest companies	20 largest companies								
22	TEXTILE MILL PRODUCTS—Con.													
2281	Yarn spinning mills ²⁸	1987--	241	7 517.5	22	36	58	80	230	95	91	(X)		
		1982--	206	4 327.6	22	34	56	82	227	93	74	(X)		
		1977--	274	3 864.9	19	31	51	75	(NA)	92	72	(X)		
		1972--	263	2 248.3	21	31	50	74	(NA)	92	86	(X)		
		1970--	(NA)	1 644.9	24	33	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1967--	256	1 422.5	21	31	51	73	(NA)	95	84	(X)		
		1966--	(NA)	1 478.5	19	30	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1963--	234	1 067.0	17	27	46	68	(NA)	96	83	(X)		
2282	Throwing and winding mills	1987--	121	2 124.2	49	64	81	95	701	92	86	(X)		
		1982--	160	1 944.7	51	62	77	92	740	94	49	(X)		
		291977--	170	1 510.1	44	54	71	89	(NA)	92	55	(X)		
2284	Thread mills	1987--	49	635.6	58	77	94	100	1 053	96	89	(X)		
		1982--	60	578.8	61	77	93	99+	1 060	97	90	(X)		
		1977--	58	544.4	57	77	93	99+	(NA)	96	91	(X)		
		1972--	61	345.4	62	77	92	99+	(NA)	92	90	(X)		
		1970--	(NA)	300.7	64	83	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1967--	63	256.6	62	81	95	99+	(NA)	90	90	(X)		
		1966--	(NA)	264.3	62	80	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1963--	59	194.1	68	85	96	99+	(NA)	93	90	(X)		
		1958--	72	175.5	66	79	93	99+	(NA)	90	91	(X)		
		1954--	84	183.7	66	78	92	(NA)	(NA)	88	94	(X)		
		291947--	83	154.3	65	78	90	(NA)	(NA)	85	(NA)	(X)		
2295	Coated fabrics, not rubberized	1987--	180	1 433.7	22	34	62	87	251	87	91	(X)		
		1982--	188	1 115.0	22	36	58	81	236	88	87	(X)		
		1977--	175	1 059.0	39	56	74	89	(NA)	87	89	(X)		
		1972--	185	865.8	35	52	73	88	(NA)	87	87	(X)		
		1970--	(NA)	677.8	33	53	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1967--	157	616.2	31	48	70	88	(NA)	87	89	(X)		
		1966--	(NA)	595.2	32	49	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1963--	149	435.7	34	54	79	92	(NA)	86	83	(X)		
		1958--	122	249.8	42	57	76	95	(NA)	82	80	(X)		
		1954--	103	212.3	43	61	82	(NA)	(NA)	86	82	(X)		
		1947--	106	162.6	34	53	81	(NA)	(NA)	84	82	(X)		
2296	Tire cord and fabrics	1987--	9	1 005.0	91	99+	(D)	(X)	(D)	(D)	(D)	(X)		
		1982--	12	981.5	81	99	100	(X)	2 584	90	99	(X)		
		1977--	8	1 013.2	80	100	(X)	(X)	(NA)	90	99	(X)		
		1972--	9	685.1	84	98	(D)	(X)	(NA)	91	97	(X)		
		1970--	(NA)	597.1	83	97	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1967--	12	444.1	83	96	100	(X)	(NA)	84	90	(X)		
		1966--	(NA)	504.7	82	94	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1963--	12	375.7	79	96	100	(X)	(NA)	87	91	(X)		
2297	Nonwoven fabrics	1987--	111	1 966.1	35	56	80	95	501	(D)	71	(X)		
		1982--	114	1 278.7	40	56	77	94	544	90	68	(X)		
		1977--	81	864.4	36	55	81	98	(NA)	86	66	(X)		
		301972--	68	397.4	43	62	84	99	(NA)	84	61	(X)		
2298	Cordage and twine	1987--	181	541.1	28	42	63	86	317	94	97	(X)		
		1982--	164	358.7	28	45	70	87	340	92	91	(X)		
		1977--	151	332.2	34	50	73	91	(NA)	90	95	(X)		
		1972--	134	191.0	36	56	76	91	(NA)	86	92	(X)		
		1970--	(NA)	149.0	42	59	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1967--	147	188.8	34	52	77	94	(NA)	86	88	(X)		
		1966--	(NA)	164.7	38	54	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1963--	148	149.3	35	53	76	93	(NA)	90	87	(X)		
		1958--	128	135.3	38	56	77	93	(NA)	92	93	(X)		
		1954--	119	159.9	40	59	81	(NA)	(NA)	90	89	(X)		
		1947--	132	170.7	33	53	77	(NA)	(NA)	87	87	(X)		
		1935--	(NA)	(NA)	31	44	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
2299	Textile goods, n.e.c. ¹⁷	1987--	519	1 452.4	21	32	51	74	196	95	88	(X)		
23	APPAREL AND OTHER TEXTILE PRODUCTS													
2311	Men's and boys' suits and coats ²⁷	1987--	285	2 863.3	34	47	64	82	506	(D)	(D)	(X)		
		1982--	443	3 061.5	25	37	57	75	261	92	93	(X)		
		1977--	619	2 767.5	21	32	48	67	(NA)	93	92	(X)		
		1972--	721	2 396.9	19	31	48	65	(NA)	93	96	(X)		
		1970--	(NA)	1 912.4	19	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1967--	904	1 912.1	17	27	43	59	(NA)	94	97	(X)		
		1966--	1 031	1 526.0	14	23	38	56	(NA)	93	97	(X)		
		1958--	1 275	1 260.9	11	19	32	49	(NA)	91	97	(X)		
		1954--	1 255	1 140.7	11	18	31	(NA)	(NA)	91	96	(X)		
		1947--	1 761	1 412.8	9	15	26	(NA)	(NA)	92	97	(X)		
2321	Men's and boys' shirts ¹⁷	1987--	464	4 075.0	22	32	50	69	194	86	87	(X)		
2322	Men's and boys' underwear and nightwear ¹⁷	1987--	71	1 045.4	58	73	92	99	1 150	84	88	(X)		
2323	Men's and boys' neckwear ²⁷	1987--	139	475.6	32	45	65	90	384	99	99	(X)		
		1982--	165	335.0	26	38	58	83	311	97	99	(X)		
		1977--	199	223.8	27	39	58	84	(NA)	100	97	(X)		
		1972--	291	294.9	26	36	53	74	(NA)	(NA)	94	(X)		
		1970--	(NA)	205.3	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1967--	296	144.7	23	32	48	70	(NA)	98	96	(X)		
		1966--	(NA)	157.7	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	10		
		1963--	341	121.3	19	26	43	65	(NA)	98	98	(X)		
		1958--	362	95.4	17	24	39	59	(NA)	97	98	(X)		
		1954--	403	100.0	16	24	41	(NA)	(NA)	98	92	(X)		

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

(For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes)

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Hertfndahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
23	APPAREL AND OTHER TEXTILE PRODUCTS—Con.														
2323	Men's and boys' neckwear ²⁷ —Con.	1947--	408	113.7	20	29	46	(NA)	(NA)	97	93	(X)			
2325	Men's and boys' trousers and slacks ¹¹	1987--	313	6 013.6	57	65	76	86	1 264	84	92	(X)			
2326	Men's and boys' work clothing ¹¹	1987--	172	1 541.6	34	46	66	88	405	85	90	(X)			
2329	Men's and boys' clothing, n.e.c.	1987--	544	2 289.6	19	29	46	64	153	(D)	(D)	(X)			
		1982--	575	1 658.3	12	20	38	62	102	84	67	(X)			
		³¹ 1977--	553	1 065.1	12	22	38	59	(NA)	83	80	(X)			
		1972--	481	783.2	20	27	41	63	(NA)	90	61	(X)			
		1970--	(NA)	649.1	18	25	(NA)	(NA)	(NA)	(NA)	5				
		1967--	517	677.7	23	30	44	61	(NA)	80	61	(X)			
		1966--	(NA)	623.0	28	37	(NA)	(NA)	(NA)	(NA)	5				
		1963--	529	397.6	13	19	32	51	(NA)	85	50	(X)			
2331	Women's, misses', and juniors' blouses and shirts ²⁷	1987--	1 406	3 831.2	12	21	34	50	80	81	72	(X)			
		1982--	1 824	3 884.2	8	14	27	44	49	84	75	(X)			
		³¹ 1977--	1 292	2 333.6	12	18	30	47	(NA)	85	75	(X)			
		1972--	890	1 254.9	18	26	38	55	(NA)	83	74	(X)			
		1970--	(NA)	929.9	22	29	(NA)	(NA)	(NA)	(NA)	4				
		1967--	921	727.0	15	24	37	53	(NA)	84	75	(X)			
		1966--	(NA)	797.1	19	25	(NA)	(NA)	(NA)	(NA)	6				
		1963--	1 130	610.2	11	15	27	44	(NA)	88	74	(X)			
		1958--	1 222	414.6	10	14	24	39	(NA)	89	78	(X)			
		1954--	1 233	375.3	11	16	25	(NA)	(NA)	93	85				
		²⁶ 1947--	1 356	276.6	7	11	20	(NA)	(NA)	93	88	(X)			
2335	Women's, misses', and juniors' dresses	1987--	5 398	5 447.8	6	10	18	30	24	95	90	(X)			
		1982--	5 489	4 623.3	6	10	17	28	24	94	94	(X)			
		1977--	6 753	4 188.6	8	12	19	28	(NA)	95	95	(X)			
		1972--	5 295	3 580.0	9	13	18	28	(NA)	96	96	(X)			
		1970--	(NA)	3 365.6	10	13	(NA)	(NA)	(NA)	(NA)	4				
		1967--	5 008	3 086.3	7	9	14	23	(NA)	97	95	(X)			
		1966--	(NA)	2 507.6	8	10	(NA)	(NA)	(NA)	(NA)	3				
		1963--	4 577	2 411.0	6	9	14	23	(NA)	97	96	(X)			
2337	Women's, misses', and juniors' suits and coats ²⁷	1987--	1 042	4 446.6	13	23	39	56	102	74	77	(X)			
		1982--	1 432	4 886.7	19	28	40	55	136	75	82	(X)			
		1977--	1 558	2 912.9	15	20	31	45	(NA)	80	80	(X)			
		1972--	1 548	1 805.3	13	18	26	40	(NA)	84	80	(X)			
		1970--	(NA)	1 605.1	10	14	(NA)	(NA)	(NA)	(NA)	4				
		1967--	2 058	1 776.4	12	15	22	34	(NA)	86	90	(X)			
		1966--	(NA)	1 779.8	9	13	(NA)	(NA)	(NA)	(NA)	5				
		1963--	2 481	1 522.7	8	11	17	28	(NA)	89	92	(X)			
		1958--	2 651	1 220.2	3	5	11	21	(NA)	93	93	(X)			
		1954--	3 178	1 261.3	3	6	11	(NA)	(NA)	94	93				
2339	Women's, misses', and juniors' outerwear, n.e.c.	1987--	2 087	5 663.4	12	20	35	51	80	80	74	(X)			
		1982--	1 592	4 830.4	13	22	34	49	86	82	75	(X)			
		³¹ 1977--	1 625	3 285.1	14	20	33	50	(NA)	80	81	(X)			
		1972--	1 247	1 638.0	18	25	37	52	(NA)	81	62	(X)			
		1970--	(NA)	1 256.6	22	31	(NA)	(NA)	(NA)	(NA)	6				
		1967--	1 048	944.3	16	21	33	50	(NA)	77	59	(X)			
		1966--	(NA)	960.0	14	22	(NA)	(NA)	(NA)	(NA)	6				
		1963--	1 252	786.0	14	22	33	48	(NA)	82	59	(X)			
2341	Women's and children's underwear ²⁷	1987--	330	2 658.3	23	35	53	74	248	88	88	(X)			
		1982--	477	2 602.4	22	31	45	66	203	91	89	(X)			
		1977--	548	1 780.8	22	29	43	64	(NA)	95	87	(X)			
		1972--	609	1 331.9	15	23	41	63	(NA)	94	88	(X)			
		1970--	(NA)	1 201.2	16	23	(NA)	(NA)	(NA)	(NA)	2				
		1967--	778	1 116.8	15	22	37	56	(NA)	94	86	(X)			
		1966--	(NA)	1 042.2	15	22	(NA)	(NA)	(NA)	(NA)	5				
		1963--	978	976.1	11	17	31	50	(NA)	94	85	(X)			
		1958--	1 170	804.9	8	13	24	41	(NA)	96	83	(X)			
		1954--	1 276	770.0	8	13	24	(NA)	(NA)	95	98	(X)			
		1947--	1 467	575.8	6	11	19	(NA)	(NA)	(NA)	(NA)				
2342	Brassieres, girdles, and allied garments ²⁷	1987--	109	1 079.9	50	69	85	96	859	87	91	(X)			
		1982--	134	720.3	35	56	78	94	486	93	92	(X)			
		1977--	150	650.0	36	52	77	92	(NA)	92	99	(X)			
		1972--	220	647.0	31	45	67	86	(NA)	96	90	(X)			
		1970--	(NA)	645.7	30	44	(NA)	(NA)	(NA)	(NA)	2				
		1967--	254	663.3	30	43	62	81	(NA)	95	97	(X)			
		1966--	(NA)	667.2	33	48	(NA)	(NA)	(NA)	(NA)	4				
		1963--	296	593.9	29	45	64	81	(NA)	96	95	(X)			
		1958--	363	462.2	29	43	59	75	(NA)	96	98	(X)			
		1954--	424	394.8	26	38	57	(NA)	(NA)	96	(NA)	(X)			
		1947--	493	277.8	16	30	47	(NA)	(NA)	(NA)	(NA)				
2353	Hats, caps, and millinery ¹¹	1987--	441	662.7	25	35	48	67	222	96	99	(X)			
2361	Girls' and children's dresses and blouses	1987--	401	1 518.6	19	26	43	65	167	83	78	(X)			
		1982--	490	1 417.7	17	26	43	64	162	90	84	(X)			
		³¹ 1977--	455	824.7	15	23	41	64	(NA)	89	87	(X)			
		1972--	439	655.2	17	26	42	63	(NA)	89	86	(X)			
		1970--	(NA)	486.9	14	21	(NA)	(NA)	(NA)	(NA)	5				
		1967--	575	496.0	14	19	32	53	(NA)	92	82	(X)			
		1966--	(NA)	492.7	14	21	(NA)	(NA)	(NA)	(NA)	5				
		1963--	627	433.3	12	20	34	54	(NA)	91	32	(X)			
2369	Girls' and children's outerwear, n.e.c. ¹⁷	1987--	312	2 234.5	25	39	61	81	276	73	82	(X)			

See footnotes at end of table.

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SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁴	Primary product specialization ratio ⁵ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁶ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
23	APPAREL AND OTHER TEXTILE PRODUCTS—Con.														
2371	Fur goods ²⁷														
	1987	380	422.6	16	24	39	60	134	100	100	(X)				
	1982	503	419.3	12	19	33	55	83	100	99	(X)				
	1977	620	383.4	11	19	31	51	(NA)	100	99	(X)				
	1972	797	220.0	7	12	23	39	(NA)	99	99	(X)				
	1970	(NA)	271.4	6	10	(NA)	(NA)	(NA)	(NA)	(NA)	14				
	1967	1 304	333.2	5	8	15	27	(NA)	99	100	(X)				
	1966	(NA)	365.1	4	7	(NA)	(NA)	(NA)	(NA)	(NA)	11				
	1963	1 591	334.4	5	8	15	26	(NA)	99	100	(X)				
	1958	1 651	275.3	5	8	14	25	(NA)	99	100	(X)				
	1954	1 972	227.5	4	6	11	(NA)	(NA)	99	100	(X)				
	1947	2 227	357.0	3	5	9	(NA)	(NA)	100	100	(X)				
	1935	(NA)	(NA)	2	4	(NA)	(NA)	(NA)	(NA)	(NA)					
2381	Fabric dress and work gloves ²⁷														
	1987	63	180.8	40	56	80	98	651	96	84	(X)				
	1982	78	208.4	46	65	84	98	752	89	73	(X)				
	1977	100	312.4	44	63	82	96	(NA)	91	84	(X)				
	1972	106	198.8	41	59	80	95	(NA)	93	86	(X)				
	1970	(NA)	185.4	35	53	(NA)	(NA)	(NA)	(NA)	(NA)	3				
	1967	140	176.6	33	49	72	92	(NA)	91	87	(X)				
	1966	(NA)	205.9	27	40	(NA)	(NA)	(NA)	(NA)	(NA)	21				
	1963	170	149.5	31	45	69	88	(NA)	94	82	(X)				
	³² 1958	189	112.1	30	46	(NA)	(NA)	(NA)	94	84	(X)				
2384	Robes and dressing gowns ²⁷														
	1987	84	502.6	33	53	80	97	471	89	73	(X)				
	1982	129	403.6	25	42	70	92	328	94	81	(X)				
	1977	137	288.3	25	44	69	90	(NA)	89	93	(X)				
	1972	172	202.8	24	39	59	83	(NA)	93	97	(X)				
	1970	(NA)	198.8	20	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	5				
	1967	237	200.2	16	27	49	77	(NA)	96	95	(X)				
	1966	(NA)	198.3	20	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	16				
	1963	268	173.5	17	28	48	75	(NA)	96	94	(X)				
	1958	278	132.5	14	23	43	68	(NA)	93	96	(X)				
	1954	322	108.0	15	25	45	(NA)	(NA)	93	84	(X)				
	1947	370	103.0	10	19	38	(NA)	(NA)	89	82	(X)				
2385	Waterproof outerwear ²⁷														
	1987	58	333.0	55	76	92	99+	1 250	91	86	(X)				
	1982	98	449.2	49	64	84	97	921	89	88	(X)				
	1977	157	348.8	41	52	70	90	(NA)	91	90	(X)				
	1972	236	332.1	31	40	56	79	(NA)	97	94	(X)				
	1970	(NA)	345.0	30	40	(NA)	(NA)	(NA)	(NA)	(NA)	4				
	1967	299	371.9	24	34	51	73	(NA)	95	93	(X)				
	1966	(NA)	305.7	24	33	(NA)	(NA)	(NA)	(NA)	(NA)	9				
	1963	223	235.5	19	28	45	68	(NA)	92	93	(X)				
	1958	272	146.3	20	29	49	74	(NA)	90	90	(X)				
	1954	291	119.7	20	30	50	(NA)	(NA)	89	81	(X)				
	1947	245	80.8	23	37	55	(NA)	(NA)	85	73	(X)				
2386	Leather and sheep-lined clothing ²⁷														
	1987	130	201.8	48	67	82	94	732	96	97	(X)				
	1982	186	221.3	32	47	69	88	386	92	94	(X)				
	1977	236	214.1	16	28	50	78	(NA)	97	91	(X)				
	1972	185	172.1	19	32	57	82	(NA)	94	87	(X)				
	1970	(NA)	140.8	(S)	27	(NA)	(NA)	(NA)	(NA)	(NA)	14				
	1967	135	98.8	24	37	61	87	(NA)	97	86	(X)				
	1966	(NA)	84.0	24	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	15				
	1963	114	56.4	28	43	66	92	(NA)	97	83	(X)				
	1958	154	64.3	18	30	52	81	(NA)	94	91	(X)				
	1954	153	56.4	18	31	53	(NA)	(NA)	85	80	(X)				
	1947	125	40.6	24	39	67	(NA)	(NA)	79	80	(X)				
2387	Apparel belts ²⁷														
	1987	263	627.8	21	31	50	74	196	93	94	(X)				
	1982	317	556.5	19	30	50	70	191	89	95	(X)				
	1977	281	286.9	21	32	51	71	(NA)	88	96	(X)				
	1972	292	257.5	21	32	51	72	(NA)	94	97	(X)				
	1970	(NA)	168.0	30	44	(NA)	(NA)	(NA)	(NA)	(NA)	5				
	1967	274	130.2	28	38	55	73	(NA)	89	98	(X)				
	1966	(NA)	121.4	28	38	(NA)	(NA)	(NA)	(NA)	(NA)	7				
	1963	388	108.6	23	30	43	62	(NA)	91	94	(X)				
	1958	458	93.8	21	27	36	54	(NA)	92	95	(X)				
	1954	501	106.3	19	25	36	(NA)	(NA)	92	94	(X)				
	1947	390	69.0	23	31	44	(NA)	(NA)	90	95	(X)				
2389	Apparel and accessories, n.e.c.														
	1987	330	383.4	29	42	57	74	318	91	67	(X)				
	1982	362	279.2	30	43	57	74	321	91	91	(X)				
	1977	304	199.0	31	45	62	78	(NA)	90	95	(X)				
	1972	238	116.8	24	37	57	77	(NA)	97	84	(X)				
	1970	(NA)	139.2	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	7				
	1967	243	119.5	18	30	52	76	(NA)	96	85	(X)				
	1966	(NA)	116.6	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	10				
	1963	265	98.2	19	31	50	74	(NA)	93	82	(X)				
2391	Curtains and draperies														
	1987	1 215	1 539.6	27	36	51	66	235	94	93	(X)				
	1982	1 328	1 062.0	22	35	48	61	191	94	91	(X)				
	1977	1 650	1 013.1	26	36	49	62	(NA)	95	93	(X)				
	1972	1 539	754.9	35	43	52	64	(NA)	93	93	(X)				
	1970	(NA)	558.0	33	40	(NA)	(NA)	(NA)	(NA)	(NA)	4				
	1967	1 393	418.7	27	39	50	63	(NA)	97	95	(X)				
	1966	(NA)	416.2	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	17				
	³³ 1963	1 092	313.0	21	33	45	60	(NA)	95	95	(X)				
	1958	757	206.5	26	34	45	61	(NA)	92	92	(X)				
	1954	697	172.7	20	28	42	(NA)	(NA)	94	89	(X)				
	1947	379	109.6	18	29	49	(NA)	(NA)	97	90	(X)				

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)			
			Percent accounted for by ⁴ —										
			Total (million dollars)	4 largest companies	8 largest companies	20 largest companies	50 largest companies						
23	APPAREL AND OTHER TEXTILE PRODUCTS—Con.												
2392	Housefurnishings, n.e.c.	1987-- 860 4 530.0 1982-- 880 3 262.2 1977-- 980 2 294.0 1972-- 1 059 1 526.9 1970-- (NA) 1 272.1 1967-- 1 189 962.8 1966-- (NA) 903.8 1963-- 1 205 716.7 1958-- 1 181 591.5 1954-- 1 203 503.2 1947-- 1 209 502.5	27 37 51 67 23 33 49 65 22 33 48 66 22 30 43 60 21 27 (NA) (NA) 21 28 41 56 20 (S) (NA) (NA) 18 24 35 50 18 25 39 52 21 29 42 (NA) 33 44 58 (NA)	248 94 90 189 92 63 (NA) 89 61 (NA) 86 58 (NA) (NA) (NA) (NA) 88 52 (NA) (NA) (NA) (NA) 88 50 (NA) 89 60 (NA) 91 59 (NA) 93 87	94 90 92 63 89 61 86 58 (NA) 55 88 52 (NA) 55 88 50 89 60 91 59 93 87	(X) (X) (X) (X) (X) (X) (X) (X) (X) (X) (X)							
2393	Textile bags	1987-- 252 571.5 1982-- 233 421.8 1977-- 211 321.8 1972-- 188 255.1 1970-- (NA) 231.3 1967-- 177 291.1 1966-- (NA) 205.0 1963-- 175 200.4 1958-- 217 186.3 1954-- 235 221.0 1947-- 198 356.0	18 30 52 76 18 29 47 74 27 39 57 83 27 42 61 84 (S) (NA) (NA) (NA) 31 50 72 89 (S) (NA) (NA) (NA) 38 51 68 87 40 51 66 85 45 56 70 (NA) 53 63 77 (NA)	181 91 87 171 88 83 (NA) 82 84 (NA) 93 90 (NA) (NA) (NA) 94 89 87 (NA) 13 88 85 85 86 87 87 84 85 85 93 98 98	91 87 88 83 82 84 93 90 (NA) 55 94 89 87 (NA) 13 88 85 85 86 87 87 84 85 85 93 98 98	(X) (X) (X) (X) (X) (X) (X) (X) (X) (X) (X)							
2394	Canvas and related products	1987-- 1 251 1 066.2 1982-- 1 108 752.3 1977-- 987 486.8 1972-- 845 276.4 1970-- (NA) 242.4 1967-- 846 273.6 1966-- (NA) 225.3 1963-- 869 186.4 1958-- 846 119.0 1954-- 1 100 129.6 1947-- 889 91.1	21 28 40 51 21 29 40 52 17 26 40 56 23 29 40 55 (S) (NA) (NA) (NA) 19 30 43 62 (S) (NA) (NA) (NA) 19 25 37 54 18 22 34 49 14 19 31 (NA) 10 17 31 (NA)	173 94 96 172 94 93 93 92 92 95 88 88 (NA) 6 94 95 95 (NA) 8 92 91 91 90 90 90 89 86 86 91 93 93	94 96 93 93 92 92 95 88 94 95 95 92 91 91 90 90 90 89 86 86 91 93 93	(X) (X) (X) (X) (X) (X) (X) (X) (X) (X) (X)							
2395	Pleating and stitching ¹⁷	1987-- 682 728.0	21 32 47 62	176 84 97	84 97 97	(X)							
2396	Automotive and apparel trimmings ¹⁷	1987-- 1 535 4 564.5	49 57 68 76	941 99 96	99 96 96	(X)							
2397	Schiffli machine embroideries	1987-- 266 302.0 1982-- 356 303.3 1977-- 357 158.0 1972-- 446 120.5 1970-- (NA) 92.1 1967-- 605 99.6 1966-- (NA) 94.8 1963-- 755 97.4 1958-- 706 74.8 1954-- 601 65.8 1947-- 542 55.5	30 42 60 78 22 32 48 66 26 36 50 67 19 28 42 58 13 19 (NA) (NA) 13 21 34 52 (S) (NA) (NA) (NA) 13 21 33 49 11 15 26 39 15 21 32 (NA) 17 23 36 (NA)	332 94 98 183 95 96 97 98 98 96 99 99 (NA) 14 98 99 99 (NA) 13 96 99 99 99 98 98 98 99 99 96 96 96	94 98 95 96 96 97 98 98 96 99 99 94 95 95 98 99 99 96 99 99 99 98 98 98 99 99 96 96 96	(X) (X) (X) (X) (X) (X) (X) (X) (X) (X) (X)							
2399	Fabricated textile products, n.e.c.	1987-- 885 2 442.1 1982-- 770 1 475.9 1977-- 845 1 152.9 1972-- 797 724.7 1970-- (NA) 784.6 1967-- 799 535.1 1966-- (NA) 477.4 1963-- 1 027 342.5	20 30 46 64 18 30 50 68 26 37 52 67 23 34 51 69 32 39 (NA) (NA) 19 30 49 70 16 28 (NA) (NA) 14 22 40 59	180 96 92 168 93 91 94 89 82 89 82 82 (NA) 3 70 89 83 (NA) 86 75 59 (NA) (NA)	96 92 93 91 91 94 89 89 89 82 82 89 83 83 86 10 10	92 92 91 91 91 89 88 88 88 82 82 89 83 83 86 75 75	(X) (X) (X) (X) (X) (X) (X)						
24	LUMBER AND WOOD PRODUCTS												
2411	Logging	1987-- 11 852 10 938.2 1982-- 11 541 8 274.0 1977-- 15 344 6 230.1 1972-- 13 152 2 529.5 1970-- (NA) 1 838.8 1967-- 16 265 1 476.3 1966-- (NA) 1 361.8 34 1963-- 13 522 1 154.7 1958-- 12 730 833.8 1954-- 12 789 733.4	18 24 33 39 30 37 47 52 29 36 45 50 18 25 35 41 19 27 (NA) (NA) 14 22 30 35 14 23 (NA) (NA) 11 19 25 31 13 19 25 32 8 13 20 (NA) 11 14 20 29	150 98 95 395 96 95 (NA) 97 94 50 97 94 41 (NA) (NA) 35 (NA) (NA) 23 (NA) (NA) 31 (NA) (NA) 32 (NA) (NA) (NA) 98 95 98 95 95	98 95 96 95 95 97 94 94 97 94 94 97 94 94 98 91 91 98 90 90 99 90 90 93 92 92 98 89 89	95 95 95 95 95 94 94 94 94 94 94 94 94 94 94 91 91 94 90 90 99 90 90 92 92 92 89 89 89	(X) (X) (X) (X) (X) (X) (X) (X) (X) (X) (X)						
2421	Sawmills and planing mills, general	1987-- 5 252 17 357.1 1982-- 5 810 10 065.2 1977-- 6 966 10 866.7 1972-- 7 664 6 420.8 1970-- (NA) 3 935.7 1967-- 10 016 3 506.4 1966-- (NA) 3 390.8 1963-- 11 931 3 156.3	15 21 31 44 17 23 34 46 17 23 36 49 18 23 33 45 16 20 (NA) (NA) 11 15 22 31 (NA) (NA) (NA) 11 14 20 29	84 95 94 113 93 91 (NA) 92 93 45 (NA) 94 31 (NA) 91 92 95 95 (NA) 94 94	95 94 93 91 91 92 93 93 94 94 94 92 95 95 94 94 94	94 94 91 91 91 92 93 93 94 94 94 92 95 95 94 94 94	(X) (X) (X) (X) (X) (X) (X)						
2426	Hardwood dimension and flooring mills	1987-- 696 1 714.0 1982-- 750 912.6 1977-- 845 850.0 34 1972-- 882 579.0	17 24 37 54 13 19 31 49 16 22 33 51 12 17 28 44	143 91 91 90 91 92 51 (NA) 91 29 (NA) 88	91 91 91 92 92 91 92 92 89 88	91 91 92 92 92 91 92 92 89 88	(X) (X) (X) (X)						

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)			
			Total (million dollars)	Percent accounted for by ⁴ —									
				4 largest companies	8 largest companies	20 largest companies	50 largest companies						
24	LUMBER AND WOOD PRODUCTS—Con.												
2429	Special product sawmills, n.e.c.	1987--	219	149.2	18	26	44	71	173	99	95	(X)	
		1982--	266	154.6	25	35	53	74	260	96	92	(X)	
		1977--	522	252.6	11	19	36	57	(NA)	98	92	(X)	
		1972--	397	180.8	26	38	51	69	(NA)	98	96	(X)	
		1970--	(NA)	118.1	(S)	(S)	(NA)	(NA)	(NA)	(NA)	18		
		1967--	454	117.9	21	30	43	63	(NA)	98	95	(X)	
		1966--	(NA)	109.7	(S)	(S)	(NA)	(NA)	(NA)	(NA)	95	(X)	
		381963--	476	96.0	17	25	41	62	(NA)	98	49	(X)	
2431	Millwork	1987--	2 640	9 326.9	20	27	37	52	186	95	96	(X)	
		1982--	2 192	4 248.3	15	20	30	44	98	93	94	(X)	
		1977--	2 209	3 928.1	14	20	31	46	(NA)	94	94	(X)	
		371972--	2 340	2 426.8	10	15	25	41	(NA)	94	94	(X)	
2434	Wood kitchen cabinets	1987--	3 644	4 378.2	16	22	33	45	91	96	98	(X)	
		1982--	2 902	2 060.7	12	19	29	40	67	96	97	(X)	
		1977--	2 541	1 590.8	14	21	33	44	(NA)	96	96	(X)	
		381972--	1 769	897.2	12	19	32	48	(NA)	95	96	(X)	
2435	Hardwood veneer and plywood	1987--	274	2 060.5	22	37	57	75	227	92	96	(X)	
		1982--	264	1 304.4	25	39	57	74	251	93	94	(X)	
		1977--	274	1 250.4	27	40	60	78	(NA)	91	93	(X)	
		1972--	326	911.8	34	43	61	77	(NA)	91	92	(X)	
2436	Softwood veneer and plywood	1987--	131	4 919.6	38	56	74	93	571	87	95	(X)	
		1982--	135	3 221.5	41	56	74	92	619	84	94	(X)	
		1977--	129	3 804.8	38	53	72	91	(NA)	88	91	(X)	
		1972--	121	2 011.5	37	50	67	87	(NA)	88	89	(X)	
2439	Structural wood members, n.e.c.	1987--	831	1 928.8	13	18	30	44	92	97	95	(X)	
		1982--	649	847.9	15	22	35	50	104	96	95	(X)	
		1977--	620	807.7	16	21	31	48	(NA)	94	93	(X)	
		381972--	642	456.0	14	19	31	48	(NA)	95	90	(X)	
2441	Nailed wood boxes and shook	1987--	304	325.0	14	23	39	62	115	91	79	(X)	
		1982--	335	306.8	21	31	46	65	208	90	81	(X)	
		1977--	391	263.3	15	24	42	64	(NA)	89	83	(X)	
		1972--	424	237.9	27	34	48	66	(NA)	88	87	(X)	
		1970--	(NA)	222.8	26	(S)	(NA)	(NA)	(NA)	(NA)	6		
		1967--	567	273.8	24	30	42	60	(NA)	88	87	(X)	
		1966--	(NA)	268.2	23	(S)	(NA)	(NA)	(NA)	(NA)	6		
		1963--	637	206.0	26	31	41	56	(NA)	85	83	(X)	
2448	Wood pallets and skids	1987--	1 678	1 496.1	4	7	13	24	13	93	94	(X)	
		1982--	1 649	1 012.3	5	8	15	26	17	92	93	(X)	
		1977--	1 267	698.0	6	10	18	29	(NA)	90	91	(X)	
		401972--	444	295.4	7	11	20	37	(NA)	91	88	(X)	
2449	Wood containers, n.e.c.	1987--	198	248.3	25	42	70	88	313	92	96	(X)	
		1982--	216	315.8	24	39	67	88	310	95	97	(X)	
		1977--	238	255.8	25	38	64	87	(NA)	93	97	(X)	
		1972--	236	240.2	22	35	60	86	(NA)	94	98	(X)	
2451	Mobile homes	1987--	207	4 102.4	30	44	65	84	351	99	100	(X)	
		1982--	261	3 606.4	24	39	61	82	269	99	99	(X)	
		1977--	308	3 199.3	24	37	58	77	(NA)	99	99	(X)	
		411972--	352	3 242.9	26	37	56	77	(NA)	99	99	(X)	
2452	Prefabricated wood buildings	1987--	604	2 472.2	11	20	36	56	87	95	98	(X)	
		1982--	598	1 349.0	18	27	47	63	150	97	99	(X)	
		1977--	512	1 948.6	24	36	49	65	(NA)	98	98	(X)	
		421972--	263	1 046.1	33	40	53	71	(NA)	97	96	(X)	
2491	Wood preserving	1987--	456	2 169.6	16	26	44	66	146	97	95	(X)	
		1982--	428	1 360.2	27	37	52	71	350	98	96	(X)	
		1977--	366	962.6	33	42	59	76	(NA)	97	97	(X)	
		1972--	309	475.8	36	45	61	80	(NA)	99	96	(X)	
		1970--	(NA)	398.5	34	(S)	(NA)	(NA)	(NA)	(NA)	2		
		1967--	278	344.2	35	44	63	84	(NA)	98	98	(X)	
		1966--	(NA)	326.0	37	47	(NA)	(NA)	(NA)	(NA)	7		
		1963--	250	247.3	34	44	64	84	(NA)	98	97	(X)	
		1958--	211	198.3	32	43	65	87	(NA)	98	96	(X)	
		1954--	188	190.5	30	42	63	(NA)	(NA)	97	99	(X)	
		1947--	136	304.0	31	44	67	(NA)	(NA)	(D)	(D)	(X)	
		1935--	(NA)	(NA)	50	60	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
2493	Reconstituted wood products ¹¹	1987--	158	2 864.9	48	65	82	95	743	98	95	(X)	
2499	Wood products, n.e.c. ¹⁷	1987--	3 223	3 295.5	8	12	20	32	32	95	94	(X)	
25	FURNITURE AND FIXTURES												
2511	Wood household furniture	1987--	2 771	7 982.0	20	29	43	58	150	95	97	(X)	
		1982--	2 430	5 056.6	16	23	37	54	106	95	96	(X)	
		1977--	2 795	4 148.8	14	23	39	56	(NA)	94	96	(X)	
		431972--	2 160	2 870.0	14	22	40	60	(NA)	94	95	(X)	
2512	Upholstered household furniture	1987--	1 030	5 263.1	24	35	51	66	221	90	96	(X)	
		1982--	1 129	3 505.3	17	25	39	55	118	91	95	(X)	
		1977--	1 357	2 931.0	15	23	36	52	(NA)	91	96	(X)	
		441972--	1 201	2 104.7	14	23	36	51	(NA)	92	95	(X)	
		1970--	(NA)	1 675.3	13	20	(NA)	(NA)	(NA)	(NA)	5		
		1967--	1 582	1 266.4	14	20	31	45	(NA)	93	94	(X)	
		1966--	(NA)	1 265.0	15	21	(NA)	(NA)	(NA)	(NA)	2		
		1963--	1 729	983.2	13	18	28	41	(NA)	92	92	(X)	

See footnotes at end of table.

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			Percent accounted for by ⁴ —										
			Total (million dollars)	4 largest companies	8 largest companies	20 largest companies	50 largest companies						
25	FURNITURE AND FIXTURES—Con.												
2514	Metal household furniture	1987-- 1982-- 1977-- 1972-- 1970-- 1967-- 1966-- 1963-- 1958-- 1954-- 1947--	374	2 141.2	18	29	50	76	178	88	94	(X)	
			413	1 590.7	16	26	44	69	150	89	92	(X)	
			405	1 307.1	13	22	39	67	(NA)	89	91	(X)	
			426	890.4	13	24	44	69	(NA)	90	91	(X)	
			(NA)	714.4	16	28	(NA)	(NA)	(NA)	(NA)	(NA)	1	
			464	605.3	14	24	40	63	(NA)	90	90	(X)	
			(NA)	595.3	13	23	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			508	524.3	13	20	34	59	(NA)	88	89	(X)	
			614	489.7	14	22	38	58	(NA)	88	88	(X)	
			635	402.6	16	26	43	(NA)	(NA)	87	83	(X)	
			305	194.9	26	37	56	(NA)	(NA)	83	73	(X)	
2515	Mattresses and bedsprings	1987-- 1982-- 1977-- 1972-- 1970-- 1967-- 1966--	721	2 417.3	33	38	47	61	514	95	83	(X)	
			786	1 935.4	23	31	43	57	211	95	88	(X)	
			832	1 398.5	21	31	43	58	(NA)	95	86	(X)	
			888	1 041.7	24	31	43	57	(NA)	94	88	(X)	
			(NA)	848.4	27	33	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			939	745.1	26	34	44	58	(NA)	91	91	(X)	
			(NA)	735.6	27	33	(NA)	(NA)	(NA)	(NA)	(NA)	3	
2517	Wood television and radio cabinets	1987-- 1982-- 1977-- 451972-- 95	80	351.1	53	72	91	99+	960	87	82	(X)	
			81	306.6	57	77	92	99	1 049	91	91	(X)	
			91	304.8	45	75	88	98	(NA)	92	90	(X)	
			330.2	42	64	86	98	(NA)	85	91	(X)		
			1 066	641.0	26	31	41	54	(NA)	90	90	(X)	
2519	Household furniture, n.e.c.	1987-- 1982-- 1977-- 1972-- 1970-- 1967-- 1966-- 1963-- 1958-- 1954--	175	403.9	43	59	77	92	792	88	83	(X)	
			196	381.1	45	57	75	91	718	80	93	(X)	
			198	301.9	39	51	73	90	(NA)	79	84	(X)	
			157	172.6	19	34	64	87	(NA)	84	73	(X)	
			(NA)	54.1	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	5	
			75	55.3	36	53	82	98	(NA)	83	56	(X)	
			(NA)	78.2	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	13	
			72	28.9	34	50	78	98	(NA)	84	51	(X)	
			92	30.3	43	57	77	96	(NA)	88	68	(X)	
			69	15.6	50	65	85	(NA)	(NA)	86	59	(X)	
2521	Wood office furniture	1987-- 1982-- 1977-- 1972-- 1970-- 1967-- 1966-- 1963-- 1958-- 1947--	625	2 084.1	26	37	50	68	248	93	91	(X)	
			430	1 087.4	22	32	50	71	199	91	84	(X)	
			319	612.0	32	44	62	81	(NA)	85	90	(X)	
			232	249.7	25	38	60	80	(NA)	90	84	(X)	
			(NA)	198.5	34	52	(NA)	(NA)	(NA)	(NA)	(NA)	5	
			172	158.3	29	48	71	88	(NA)	89	86	(X)	
			(NA)	136.4	30	50	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			131	101.5	29	47	74	92	(NA)	90	87	(X)	
			147	66.2	27	42	68	87	(NA)	89	82	(X)	
			111	52.7	25	41	69	(NA)	(NA)	86	86	(X)	
			114	47.5	21	34	65	(NA)	(NA)	92	80	(X)	
2522	Office furniture, except wood	1987-- 1982-- 1977-- 1972-- 1970-- 1967-- 1966-- 1963-- 1958-- 1954-- 100	291	5 453.6	48	58	73	87	879	94	96	(X)	
			224	3 062.7	45	59	75	89	900	90	91	(X)	
			167	1 397.4	47	59	78	93	(NA)	94	92	(X)	
			166	861.5	42	54	76	93	(NA)	90	89	(X)	
			(NA)	677.7	41	55	(NA)	(NA)	(NA)	(NA)	(NA)	1	
			166	622.9	38	52	75	92	(NA)	89	88	(X)	
			(NA)	596.0	37	51	(NA)	(NA)	(NA)	(NA)	(NA)	4	
			153	390.0	33	50	75	93	(NA)	87	89	(X)	
			142	271.8	38	56	80	94	(NA)	88	86	(X)	
			122	202.9	46	63	83	(NA)	(NA)	84	87	(X)	
			100	125.7	50	66	87	(NA)	(NA)	89	92	(X)	
2531	Public building and related furniture	1987-- 1982-- 1977-- 1972-- 1970-- 1967-- 1966-- 1963-- 1958-- 1954-- 291	465	2 088.3	37	46	64	79	477	92	92	(X)	
			394	1 102.8	23	33	51	71	206	84	86	(X)	
			401	787.4	23	32	50	71	(NA)	88	87	(X)	
			405	523.6	22	32	47	67	(NA)	86	87	(X)	
			(NA)	461.7	23	36	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			428	421.2	23	36	54	72	(NA)	84	86	(X)	
			(NA)	343.5	24	37	(NA)	(NA)	(NA)	(NA)	(NA)	9	
			424	268.6	24	35	50	69	(NA)	85	85	(X)	
			383	204.6	27	37	53	71	(NA)	88	80	(X)	
			291	159.5	32	43	61	(NA)	(NA)	83	86	(X)	
2541	Wood partitions and fixtures	1987-- 1982-- 1977-- 1972-- 1970-- 1967-- 1966-- 1963--	1 833	2 815.9	7	11	20	33	29	94	90	(X)	
			1 547	1 766.7	8	12	22	38	39	92	91	(X)	
			1 572	1 105.8	6	11	20	34	(NA)	92	88	(X)	
			1 475	793.2	5	9	18	32	(NA)	92	89	(X)	
			(NA)	612.5	9	13	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			1 463	498.6	6	10	20	36	(NA)	93	89	(X)	
			(NA)	452.0	4	8	(NA)	(NA)	(NA)	(NA)	(NA)	6	
			1 588	389.6	4	8	15	27	(NA)	94	89	(X)	
2542	Partitions and fixtures, except wood	1987-- 1982-- 1977-- 1972-- 1970-- 1967-- 1966-- 1963--	566	2 721.3	15	23	39	59	120	89	93	(X)	
			533	1 943.2	14	23	40	60	113	89	91	(X)	
			508	1 303.0	16	24	41	62	(NA)	89	91	(X)	
			482	734.5	16	25	44	65	(NA)	90	86	(X)	
			(NA)	575.8	19	30	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			491	512.0	24	33	51	70	(NA)	90	84	(X)	
			(NA)	520.1	22	33	(NA)	(NA)	(NA)	(NA)	(NA)	14	
			502	337.8	23	33	50	70	(NA)	83	82	(X)	
2591	Drapery hardware and blinds and shades	1987-- 1982-- 1977-- 1972-- 1970-- 1967-- 1966-- 1963--	443	1 780.4	46	63	75	84	656	99	96	(X)	
			404	1 114.4	43	62	75	85	661	97	97	(X)	
			435	675.1	46	65	81	89	(NA)	95	96	(X)	
			493	364.5	50	67	78	86	(NA)	90	96	(X)	
			(NA)	298.1	42	59	(NA)	(NA)	(NA)	(NA)	(NA)	3	
			581	246.8	41	57	74	83	(NA)	89	94	(X)	
			(NA)	229.0	41	57	(NA)	(NA)	(NA)	(NA)	(NA)	8	
			695	199.6	37	54	71	79	(NA)	89	90	(X)	

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)			
			Total (million dollars)	Percent accounted for by ⁴ —									
				4 largest companies	8 largest companies	20 largest companies	50 largest companies						
25	FURNITURE AND FIXTURES—Con.												
2591	Drapery hardware and blinds and shades—Con.	1958	826	166.6	32	45	(NA)	(NA)	(NA)	(X)			
2599	Furniture and fixtures, n.e.c.	1987	1 569	1 959.7	18	24	34	48	140	93			
		1982	819	1 275.7	19	28	42	59	156	90			
		1977	528	705.2	19	27	40	59	(NA)	87			
		1972	477	372.0	13	23	39	59	(NA)	87			
		1970	(NA)	210.3	16	26	(NA)	(NA)	(NA)	7			
		1967	317	179.0	18	28	43	65	(NA)	75			
		1966	(NA)	152.5	18	28	(NA)	(NA)	(NA)	13			
		1963	354	121.6	16	27	42	64	(NA)	86			
26	PAPER AND ALLIED PRODUCTS												
2611	Pulp mills	1987	26	4 313.7	44	69	99	100	743	87			
		1982	29	3 110.4	45	70	99	100	760	85			
		1977	26	2 091.1	48	76	99	100	(NA)	86			
		1972	46	709.9	59	83	99	100	(NA)	95			
		1970	(NA)	960.3	48	76	(NA)	(NA)	(NA)	1			
		1967	45	720.5	45	70	97	100	(NA)	88			
		1966	(NA)	725.5	48	75	(NA)	(NA)	(NA)	71			
		1963	34	609.1	48	72	97	100	(NA)	88			
		461958	49	452.0	46	68	94	100	(NA)	71			
2621	Paper mills ²⁸	1987	122	28 918.0	33	50	78	94	432	91			
		1982	135	20 994.6	22	40	71	93	311	92			
		1977	171	12 613.3	23	42	70	92	(NA)	92			
		1972	194	6 385.2	24	40	66	88	(NA)	91			
		1970	(NA)	5 674.0	26	43	(NA)	(NA)	(NA)	1			
		1967	203	4 844.0	26	43	65	86	(NA)	92			
		1966	(NA)	4 804.8	24	40	(NA)	(NA)	(NA)	93			
		1963	186	3 824.9	26	42	63	85	(NA)	90			
2631	Paperboard mills	1987	91	13 729.7	32	51	77	97	431	91			
		1982	106	9 531.1	28	45	75	96	401	90			
		1977	120	7 124.3	27	42	70	95	(NA)	84			
		1972	135	4 153.5	29	44	69	93	(NA)	94			
		1970	(NA)	3 388.6	28	44	(NA)	(NA)	(NA)	1			
		1967	148	2 907.0	27	42	67	92	(NA)	84			
		1966	(NA)	2 853.4	27	42	(NA)	(NA)	(NA)	91			
		1963	146	2 315.2	27	43	67	90	(NA)	85			
2652	Setup paperboard boxes	1987	180	436.5	16	26	44	70	144	96			
		1982	241	433.2	15	26	43	65	132	96			
		1977	280	360.5	12	21	37	58	(NA)	93			
		1972	366	321.3	11	17	31	52	(NA)	94			
		1970	(NA)	324.6	12	(S)	(NA)	(NA)	(NA)	86			
		1967	418	282.4	12	19	32	50	(NA)	92			
		1966	(NA)	256.6	12	20	(NA)	(NA)	(NA)	87			
		1963	474	225.8	12	19	30	48	(NA)	91			
2653	Corrugated and solid fiber boxes	1987	952	16 104.0	26	41	62	73	289	99			
		1982	906	10 558.1	19	33	58	73	207	99			
		1977	863	7 351.1	19	33	58	75	(NA)	99			
		1972	709	4 308.8	18	32	58	76	(NA)	99			
		1970	(NA)	3 508.3	19	33	(NA)	(NA)	(NA)	2			
		1967	568	2 959.6	18	33	61	78	(NA)	98			
		1966	(NA)	2 891.2	18	33	(NA)	(NA)	(NA)	3			
		1963	534	2 166.1	20	36	63	79	(NA)	96			
2655	Fiber cans, drums, and similar products	1987	137	1 533.9	64	73	86	94	2 582	92			
		1982	152	1 473.5	61	76	87	95	1 134	95			
		1977	166	1 011.1	54	73	85	94	(NA)	89			
		1972	168	568.0	54	70	82	92	(NA)	87			
		1970	(NA)	458.3	56	72	(NA)	(NA)	(NA)	2			
		1967	165	385.2	51	68	83	93	(NA)	96			
		1966	(NA)	353.0	54	72	(NA)	(NA)	(NA)	85			
		1963	166	260.3	57	72	82	92	(NA)	96			
2656	Sanitary food containers ¹¹	1987	57	2 083.0	56	75	94	99+	1 031	87			
2657	Folding paperboard boxes ¹¹	1987	461	5 705.3	23	36	55	71	227	95			
2671	Paper coated and laminated packaging ¹¹	1987	91	2 416.0	33	48	67	91	399	85			
2672	Paper coated and laminated, n.e.c. ¹¹	1987	369	5 891.7	49	59	71	83	986	87			
2673	Bags: plastics, laminated, and coated ¹¹	1987	424	4 576.9	32	42	58	74	418	81			
2674	Bags: uncoated paper and multiwall ¹¹	1987	76	2 448.0	47	66	86	99	777	91			
2675	Die-cut paper and board ⁴⁷	1987	374	1 749.3	38	51	65	80	492	88			
		1982	358	1 680.1	40	50	65	82	522	91			
		1977	316	1 057.7	43	55	71	85	(NA)	84			
		1972	310	676.3	43	54	69	86	(NA)	89			
		1970	(NA)	597.0	37	45	(NA)	(NA)	(NA)	2			
		1967	368	577.5	37	47	62	80	(NA)	86			
		1966	(NA)	512.5	31	(NA)	(NA)	(NA)	(NA)	5			
		1963	370	378.3	36	47	62	79	(NA)	82			

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
26	PAPER AND ALLIED PRODUCTS—Con.														
2676	Sanitary paper products ⁴⁷	1987--	78	11 698.4	70	85	96	99+	1 543	96	99	(X)			
		1982--	84	9 086.0	62	81	97	99+	1 328	94	98	(X)			
		1977--	72	4 921.2	65	84	96	99+	(NA)	93	99	(X)			
		¹⁰ 1972--	72	2 071.8	63	82	95	99+	(NA)	95	97	(X)			
		1970--	(NA)	1 659.1	63	81	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
		1967--	91	1 293.4	63	79	92	99	(NA)	94	96	(X)			
		1966--	(NA)	1 185.8	64	80	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963--	97	983.0	62	76	90	99	(NA)	93	97	(X)			
2677	Envelopes ⁴⁷	1987--	203	2 598.1	31	51	71	87	388	98	96	(X)			
		1982--	196	1 771.3	28	46	67	85	337	98	94	(X)			
		1977--	182	990.5	28	44	66	86	(NA)	97	93	(X)			
		1972--	178	620.8	31	45	65	84	(NA)	96	95	(X)			
		1970--	(NA)	572.9	31	44	(NA)	(NA)	(NA)	(NA)	(NA)	4			
		1967--	172	470.3	32	44	63	84	(NA)	95	96	(X)			
		1966--	(NA)	446.3	32	44	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963--	180	363.3	32	42	59	82	(NA)	94	96	(X)			
		1958--	173	258.9	30	41	58	81	(NA)	93	94	(X)			
		1954--	170	195.3	27	37	54	(NA)	(NA)	96	92	(X)			
		1947--	142	128.3	30	40	58	(NA)	(NA)	92	95	(X)			
		1935--	(NA)	(NA)	33	42	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
2678	Stationery products ⁴⁷	1987--	170	1 216.4	51	63	79	92	1 523	74	74	(X)			
		1982--	194	1 034.0	39	49	69	87	780	79	73	(X)			
		1977--	219	651.7	38	50	69	88	(NA)	86	80	(X)			
		⁴⁸ 1972--	405	450.5	34	45	63	79	(NA)	85	82	(X)			
2679	Converted paper products, n.e.c. ¹¹	1987--	743	3 570.1	21	31	46	63	171	91	89	(X)			
27	PRINTING AND PUBLISHING														
2711	Newspapers	1987--	7 473	31 850.1	25	39	55	71	250	97	100	(X)			
		1982--	7 520	21 276.3	22	34	49	66	193	96	100	(X)			
		1977--	7 821	13 055.9	19	31	45	62	(NA)	96	100	(X)			
		1972--	7 461	8 262.8	17	28	43	60	(NA)	96	100	(X)			
		1970--	(NA)	6 990.9	16	24	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1967--	7 589	5 757.1	16	25	40	56	(NA)	97	100	(X)			
		1966--	(NA)	5 520.2	14	22	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963--	7 982	4 483.6	15	22	36	52	(NA)	96	100	(X)			
		1958--	7 947	3 615.6	17	24	35	51	(NA)	96	100	(X)			
		1954--	8 445	3 091.0	18	24	34	(NA)	(NA)	95	100	(X)			
		1947--	8 115	1 891.3	21	26	36	(NA)	(NA)	94	100	(X)			
2721	Periodicals	1987--	3 759	17 329.2	18	29	46	61	163	95	96	(X)			
		1982--	3 143	11 478.0	20	31	49	64	175	93	97	(X)			
		1977--	2 860	6 056.5	22	35	52	67	(NA)	90	96	(X)			
		1972--	2 451	3 510.6	26	38	54	69	(NA)	89	95	(X)			
		1970--	(NA)	3 157.9	28	41	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967--	2 430	3 095.9	24	37	56	72	(NA)	69	97	(X)			
		1966--	(NA)	2 717.9	28	41	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1963--	2 562	2 295.7	28	42	59	73	(NA)	89	96	(X)			
		1958--	2 245	1 650.6	31	41	55	69	(NA)	93	97	(X)			
		1954--	2 012	1 441.0	29	40	54	(NA)	(NA)	95	97	(X)			
		1947--	2 106	1 059.6	34	43	58	(NA)	(NA)	94	98	(X)			
2731	Book publishing	1987--	2 182	12 619.5	24	38	62	78	259	92	95	(X)			
		1982--	2 007	7 740.0	17	30	56	75	190	94	91	(X)			
		1977--	1 650	4 793.9	17	30	57	74	(NA)	94	88	(X)			
		1972--	1 120	2 856.9	19	31	56	77	(NA)	93	86	(X)			
		1970--	(NA)	2 437.3	21	35	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1967--	963	2 060.2	20	32	57	77	(NA)	95	86	(X)			
		1966--	(NA)	1 996.3	20	33	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1963--	936	1 534.6	20	33	56	76	(NA)	93	88	(X)			
		1958--	883	1 000.9	16	29	48	69	(NA)	92	90	(X)			
		1954--	804	665.2	21	32	51	(NA)	(NA)	91	90	(X)			
		1947--	635	463.9	18	29	48	(NA)	(NA)	92	93	(X)			
2732	Book printing	1987--	519	3 256.3	30	41	58	75	352	89	88	(X)			
		1982--	637	2 392.4	27	37	52	69	278	89	84	(X)			
		1977--	897	1 691.8	25	35	49	64	(NA)	85	78	(X)			
		1972--	674	937.7	24	36	53	68	(NA)	83	73	(X)			
		1970--	(NA)	939.3	22	33	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1967--	720	787.4	21	30	48	64	(NA)	81	70	(X)			
		1966--	(NA)	709.3	22	33	(NA)	(NA)	(NA)	(NA)	(NA)	5			
		1963--	662	546.6	19	30	48	66	(NA)	78	69	(X)			
		1958--	785	354.3	24	34	51	68	(NA)	72	60	(X)			
2741	Miscellaneous publishing	1987--	2 129	7 809.5	35	49	60	71	382	98	91	(X)			
		1982--	1 952	2 871.3	21	29	44	59	197	95	86	(X)			
		1977--	2 266	1 850.9	24	34	50	63	(NA)	95	89	(X)			
		1972--	1 964	1 070.2	29	42	57	68	(NA)	95	93	(X)			
		1970--	(NA)	724.9	35	52	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1967--	1 443	605.3	29	46	64	75	(NA)	93	89	(X)			
		1966--	(NA)	495.2	33	43	(NA)	(NA)	(NA)	(NA)	(NA)	6			
		1963--	1 308	389.6	32	44	59	71	(NA)	92	84	(X)			
		1958--	1 038	315.7	29	40	55	68	(NA)	89	87	(X)			
		1954--	900	231.2	31	45	58	(NA)	(NA)	85	82	(X)			
		1947--	569	103.3	22	33	52	(NA)	(NA)	93	78	(X)			

See footnotes at end of table.

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			Total (million dollars)	Percent accounted for by ⁴ —										
				4 largest companies	8 largest companies	20 largest companies								
27	PRINTING AND PUBLISHING—Con.													
2752	Commercial printing, lithographic	1987--	24 327	32 832.0	7	10	16	24	22	94	94 (X)			
		1982--	17 332	19 441.6	6	10	17	24	20	91	93 (X)			
		1977--	10 964	9 359.7	6	10	17	26	(NA)	87	88 (X)			
		491972	8 160	5 124.8	4	8	15	24	(NA)	87	88 (X)			
		1970--	(NA)	4 155.1	4	8	(NA)	(NA)	(NA)	(NA)	2 (NA)			
		1967--	6 718	3 139.4	5	8	15	25	(NA)	82	80 (X)			
		1966--	(NA)	2 791.4	5	9	(NA)	(NA)	(NA)	(NA)	3 (NA)			
		1963--	6 738	2 149.7	6	10	16	25	(NA)	80	82 (X)			
2754	Commercial printing, gravure ¹⁷	1987--	304	3 059.8	57	72	87	96	1 173	85	94 (X)			
2759	Commercial printing, n.e.c. ¹¹	1987--	10 608	8 894.3	5	8	15	25	19	92	87 (X)			
2761	Manifold business forms	1987--	603	7 397.1	33	45	61	74	448	94	97 (X)			
		1982--	582	5 058.7	36	47	65	78	571	96	97 (X)			
		1977--	601	2 893.8	38	48	64	77	(NA)	93	95 (X)			
		1972--	534	1 429.7	45	54	66	78	(NA)	93	92 (X)			
		1970--	(NA)	1 233.2	47	57	(NA)	(NA)	(NA)	(NA)	3 (NA)			
		1967--	454	932.3	47	57	69	81	(NA)	91	90 (X)			
		1966--	(NA)	823.9	47	57	(NA)	(NA)	(NA)	(NA)	3 (NA)			
		1963--	439	637.7	46	55	68	80	(NA)	90	91 (X)			
2771	Greeting cards	1987--	147	2 911.1	85	89	95	99	2 830	82	95 (X)			
		1982--	139	1 893.6	84	89	96	99	2 840	75	94 (X)			
		1977--	155	1 072.1	77	85	93	98	(NA)	78	95 (X)			
		1972--	186	755.4	70	78	88	96	(NA)	76	97 (X)			
		1970--	(NA)	659.6	75	85	(NA)	(NA)	(NA)	(NA)	1 (NA)			
		1967--	203	517.9	67	79	88	95	(NA)	87	93 (X)			
		1966--	(NA)	460.1	64	76	(NA)	(NA)	(NA)	(NA)	5 (NA)			
		1963--	239	346.0	57	71	82	92	(NA)	92	96 (X)			
		1958--	265	276.0	45	62	75	89	(NA)	94	93 (X)			
		1954--	280	208.9	42	57	73	(NA)	(NA)	93	89 (X)			
		1947--	161	123.9	39	55	74	(NA)	(NA)	92	87 (X)			
2782	Blankbooks and looseleaf binders	1987--	348	2 903.6	47	60	76	87	993	89	93 (X)			
		1982--	333	2 039.4	41	55	72	86	777	86	92 (X)			
		1977--	371	1 122.6	43	56	70	83	(NA)	86	91 (X)			
		1972--	377	591.1	38	48	62	78	(NA)	89	90 (X)			
		1970--	(NA)	461.5	39	48	(NA)	(NA)	(NA)	(NA)	4 (NA)			
		1967--	402	381.3	35	45	59	77	(NA)	86	88 (X)			
		1966--	(NA)	344.2	(S)	(S)	(NA)	(NA)	(NA)	(NA)	4 (NA)			
		1963--	380	268.2	33	44	57	76	(NA)	88	88 (X)			
2789	Bookbinding and related work	1987--	1 011	1 176.3	11	17	28	43	60	95	94 (X)			
		1982--	994	763.5	9	14	24	39	45	96	91 (X)			
		1977--	974	533.6	10	17	30	46	(NA)	96	94 (X)			
		1972--	990	377.2	11	18	31	46	(NA)	95	89 (X)			
		1970--	(NA)	353.3	10	16	(NA)	(NA)	(NA)	(NA)	3 (NA)			
		1967--	1 008	340.6	11	18	30	47	(NA)	94	89 (X)			
		1966--	(NA)	349.1	(S)	(S)	(NA)	(NA)	(NA)	(NA)	7 (NA)			
		1963--	1 038	228.5	12	17	28	44	(NA)	95	83 (X)			
		1958--	966	182.0	10	16	(NA)	(NA)	(NA)	94	86 (X)			
2791	Typesetting	1987--	3 317	1 783.7	12	16	23	33	49	96	83 (X)			
		1982--	3 045	1 242.9	7	10	16	26	23	97	88 (X)			
		1977--	2 370	730.6	6	9	17	29	(NA)	97	89 (X)			
		1972--	1 860	482.8	5	8	16	29	(NA)	97	91 (X)			
		1970--	(NA)	462.9	(S)	(S)	(NA)	(NA)	(NA)	(NA)	7 (NA)			
		1967--	1 518	356.7	7	11	19	32	(NA)	95	92 (X)			
		1966--	(NA)	309.6	(S)	(S)	(NA)	(NA)	(NA)	(NA)	9 (NA)			
		1963--	1 271	241.0	6	10	18	30	(NA)	95	90 (X)			
		1958--	1 181	175.1	6	10	19	33	(NA)	93	92 (X)			
		1954--	1 078	121.4	5	9	18	(NA)	(NA)	94	87 (X)			
		1947--	793	75.7	8	13	24	(NA)	(NA)	94	87 (X)			
2796	Platemaking services ¹¹	1987--	1 326	2 373.1	10	15	23	36	44	96	90 (X)			
28	CHEMICALS AND ALLIED PRODUCTS													
2812	Alkalies and chlorine	1987--	27	1 547.9	72	93	99+	100	2 328	86	65 (X)			
		1982--	35	1 570.5	49	78	99+	100	952	81	53 (X)			
		1977--	30	1 654.8	66	87	99+	100	(NA)	63	58 (X)			
		1972--	28	823.2	72	91	99+	100	(NA)	65	65 (X)			
		1970--	(NA)	660.3	71	93	(NA)	(NA)	(NA)	(NA)	1 (NA)			
		1967--	19	719.8	63	88	100	(X)	(NA)	67	75 (X)			
		1966--	(NA)	782.7	63	88	(NA)	(NA)	(NA)	(NA)	2 (NA)			
		1963--	19	652.1	62	88	100	(X)	(NA)	66	79 (X)			
		1958--	18	488.1	64	89	100	(X)	(NA)	73	84 (X)			
		1954--	17	399.9	69	90	100	(X)	(NA)	76	84 (X)			
		1947--	18	208.6	70	93	100	(X)	(NA)	81	85 (X)			
2813	Industrial gases	1987--	103	2 617.8	77	88	95	98	1 538	98	94 (X)			
		1982--	105	2 019.3	75	87	95	99	1 530	98	91 (X)			
		1977--	109	1 234.6	65	84	93	98	(NA)	97	93 (X)			
		1972--	105	679.3	65	81	93	98	(NA)	96	92 (X)			
		1970--	(NA)	665.0	75	(S)	(NA)	(NA)	(NA)	(NA)	1 (NA)			
		1967--	113	588.7	67	84	95	99	(NA)	96	89 (X)			
		1966--	(NA)	549.7	72	88	(NA)	(NA)	(NA)	(NA)	2 (NA)			
		1963--	104	425.4	72	86	95	99	(NA)	98	87 (X)			
		1958--	111	232.0	79	88	94	98	(NA)	97	84 (X)			
		1954--	101	167.7	84	88	93	(NA)	(NA)	99	84 (X)			
		1947--	69	93.5	83	88	94	(NA)	100	84 (X)				
		1935--	(NA)	(NA)	79	87	(NA)	(NA)	(NA)	(NA)	(X)			

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
28	CHEMICALS AND ALLIED PRODUCTS— Con.														
2816	Inorganic pigments	1987	70	2 388.3	64	76	94	99+	1 550	94	89	(X)			
		1982	86	1 630.0	46	67	91	98	933	88	88	(X)			
		1977	71	1 259.9	54	78	94	99+	(NA)	88	84	(X)			
		1972	77	796.9	52	72	91	99	(NA)	86	86	(X)			
		1970	(NA)	635.2	56	74	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1967	65	549.3	59	78	95	99+	(NA)	90	84	(X)			
		1966	(NA)	581.8	64	83	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	69	484.8	68	84	96	99+	(NA)	91	87	(X)			
		1958	67	402.6	69	83	96	99+	(NA)	92	90	(X)			
		1954	73	371.4	67	83	96	(NA)	(NA)	88	88	(X)			
2819	Industrial inorganic chemicals, n.e.c. ⁵⁰	1987	427	13 219.8	38	49	68	84	468	91	80	(X)			
		1982	425	12 060.4	31	46	70	88	430	91	77	(X)			
		1977	345	8 695.7	33	49	74	90	(NA)	87	77	(X)			
		⁵¹ 1972	166	3 833.3	34	52	76	93	(NA)	89	79	(X)			
2821	Plastics materials and resins	1987	288	26 245.5	20	33	61	89	248	88	81	(X)			
		1982	263	15 769.2	22	38	64	89	272	87	77	(X)			
		1977	221	10 818.2	22	37	60	87	(NA)	85	74	(X)			
		⁵² 1972	193	4 478.2	26	41	65	90	(NA)	90	74	(X)			
2822	Synthetic rubber	1987	58	3 283.0	50	76	99	99+	920	79	72	(X)			
		1982	63	3 156.4	49	74	99	99+	935	80	78	(X)			
		1977	56	1 863.3	60	83	99	99+	(NA)	91	71	(X)			
		1972	50	1 089.4	62	81	98	100	(NA)	90	74	(X)			
		1970	(NA)	992.1	64	85	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	33	926.9	61	82	100	(X)	(NA)	89	81	(X)			
		1966	(NA)	954.7	56	78	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	16	769.9	57	80	100	(X)	(NA)	92	80	(X)			
		1958	13	529.2	60	86	100	(X)	(NA)	95	83	(X)			
		1954	13	361.1	53	81	100	(X)	(NA)	98	90	(X)			
		1947	5	235.2	(D)	100	(X)	(X)	(NA)	96	89	(X)			
2823	Cellulosic manmade fibers	1987	6	1 319.7	(D)	100	(X)	(X)	(D)	(D)	(D)	(X)			
		1982	5	1 239.9	(D)	100	(X)	(X)	2 970	(D)	(D)	(X)			
		1977	5	1 002.8	(D)	100	(X)	(X)	(NA)	(D)	(D)	(X)			
		1972	12	589.5	96	(D)	100	(X)	(NA)	(D)	(D)	(X)			
		1970	(NA)	685.0	(D)	100	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	13	902.8	86	99+	100	(X)	(NA)	(NA)	(NA)	(X)			
		1966	(NA)	924.1	85	100	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	8	731.8	82	100	(X)	(X)	(NA)	(D)	(D)	(X)			
2824	Organic fibers, noncellulosic	1987	46	10 003.2	76	92	98	100	2 403	85	97	(X)			
		1982	44	8 262.7	77	91	99	100	2 349	85	81	(X)			
		⁵³ 1977	37	6 379.7	78	90	99	100	(NA)	84	79	(X)			
		1972	36	3 638.9	74	91	99+	100	(NA)	80	97	(X)			
		1970	(NA)	2 822.3	73	89	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	22	2 033.2	84	94	(D)	100	(NA)	92	94	(X)			
		1966	(NA)	1 991.8	85	95	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	14	1 403.2	94	99	100	(X)	(NA)	95	97	(X)			
2833	Medicinals and botanicals	1987	208	3 350.2	72	80	89	95	2 588	91	69	(X)			
		1982	210	3 397.9	62	75	85	94	1 470	83	74	(X)			
		1977	153	1 889.9	65	78	89	96	(NA)	82	68	(X)			
		1972	125	509.0	59	75	90	98	(NA)	87	51	(X)			
		1970	(NA)	528.3	64	74	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1967	112	445.2	74	81	91	98	(NA)	71	56	(X)			
		1966	(NA)	285.1	70	81	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1963	122	305.8	68	79	91	99	(NA)	71	47	(X)			
		1958	114	299.3	64	77	89	98	(NA)	72	55	(X)			
		1954	107	252.5	72	84	93	(NA)	(NA)	69	59	(X)			
2834	Pharmaceutical preparations	1987	640	32 094.1	22	36	65	88	273	90	97	(X)			
		1982	584	18 997.6	26	42	69	90	318	89	96	(X)			
		1977	655	11 459.4	24	43	73	91	(NA)	86	97	(X)			
		1972	680	7 149.5	26	44	75	91	(NA)	87	97	(X)			
		1970	(NA)	6 027.8	26	43	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	791	4 696.4	24	40	73	90	(NA)	87	97	(X)			
		1966	(NA)	4 432.4	24	41	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	944	3 314.3	22	38	72	89	(NA)	87	94	(X)			
		1958	1 064	2 533.4	27	45	73	87	(NA)	88	94	(X)			
		1954	1 128	1 643.1	25	44	68	(NA)	(NA)	91	94	(X)			
		1947	1 123	941.3	28	44	64	(NA)	(NA)	91	98	(X)			
2835	Diagnostic substances ¹¹	1987	137	2 205.0	39	60	82	95	624	89	68	(X)			
2836	Biological products, except diagnostic ¹¹	1987	174	1 614.1	45	65	80	93	676	87	75	(X)			
2841	Soap and other detergents	1987	683	11 558.5	65	76	84	89	1 698	80	91	(X)			
		1982	642	9 167.3	60	73	83	90	1 306	84	91	(X)			
		1977	554	5 671.4	59	71	82	89	(NA)	84	89	(X)			
		1972	577	3 394.4	62	74	85	92	(NA)	83	90	(X)			
		1970	(NA)	2 988.7	70	79	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	599	2 593.4	70	78	86	92	(NA)	83	90	(X)			
		1966	(NA)	2 395.9	72	80	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	641	2 127.8	72	80	88	93	(NA)	82	92	(X)			
2842	Polishes and sanitation goods	1987	669	5 593.9	44	60	70	79	609	73	76	(X)			
		1982	747	4 613.7	39	57	69	80	526	74	78	(X)			
		1977	946	3 157.3	41	56	67	78	(NA)	76	79	(X)			
		⁵⁶ 1972	1 022	1 867.6	43	54	65	78	(NA)	81	83	(X)			

See footnotes at end of table.

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			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
28	CHEMICALS AND ALLIED PRODUCTS— Con.														
2843	Surface active agents	1987	184	3 002.2	38	53	72	89	590	75	75	(X)			
		1982	181	2 067.2	43	54	73	90	639	81	65	(X)			
		1977	148	944.8	32	46	69	90	(NA)	81	55	(X)			
		1972	151	462.6	28	42	64	89	(NA)	81	60	(X)			
		1970	(NA)	398.7	31	46	(NA)	(NA)	(NA)	(NA)	(NA)	6			
		1967	154	294.2	34	47	65	85	(NA)	79	54	(X)			
		1966	(NA)	252.1	38	50	(NA)	(NA)	(NA)	(NA)	3	(X)			
2844	Toilet preparations	1963	137	177.8	39	50	67	86	(NA)	80	47	(X)			
		1987	648	14 592.9	32	49	72	86	397	95	88	(X)			
		1982	596	10 183.2	34	49	71	88	469	96	89	(X)			
		1977	644	6 557.2	40	56	74	90	(NA)	95	87	(X)			
		1972	593	4 053.0	38	53	74	91	(NA)	94	86	(X)			
		1970	(NA)	3 461.1	39	52	(NA)	(NA)	(NA)	(NA)	2	(X)			
		1967	628	2 515.6	38	52	74	90	(NA)	94	80	(X)			
		1966	(NA)	2 430.6	40	54	(NA)	(NA)	(NA)	(NA)	2	(X)			
		1963	673	1 792.7	38	52	75	90	(NA)	91	84	(X)			
		1958	721	997.2	29	45	70	87	(NA)	92	83	(X)			
2851	Paints and allied products	1954	693	628.5	25	40	64	(NA)	(NA)	91	77	(X)			
		1947	692	381.4	24	38	59	(NA)	(NA)	84	72	(X)			
		1935	(NA)	(NA)	25	40	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
		1987	1 121	12 702.4	27	40	53	68	258	98	97	(X)			
		1982	1 170	9 162.1	24	36	53	67	222	97	96	(X)			
		1977	1 288	6 629.7	24	36	52	67	(NA)	96	97	(X)			
		⁵⁶ 1972	1 318	3 821.8	22	34	51	66	(NA)	95	96	(X)			
2861	Gum and wood chemicals	1970	(NA)	3 407.8	22	34	(NA)	(NA)	(NA)	(NA)	2	(X)			
		1967	1 459	2 911.4	22	35	48	61	(NA)	95	96	(X)			
		1966	(NA)	2 970.4	23	36	(NA)	(NA)	(NA)	(NA)	2	(X)			
		1963	1 579	2 456.4	23	34	47	60	(NA)	95	96	(X)			
		1987	52	486.5	59	81	96	(D)	1 126	87	73	(X)			
		1982	67	624.2	54	80	96	⁹⁹⁺	996	84	77	(X)			
		1977	100	391.3	59	80	92	98	(NA)	76	67	(X)			
2865	Cyclic crudes and intermediates ²⁸	1972	118	332.3	68	83	94	99	(NA)	70	75	(X)			
		1970	(NA)	261.7	73	85	(NA)	(NA)	(NA)	(NA)	3	(X)			
		1967	172	215.9	70	79	88	97	(NA)	73	76	(X)			
		1966	(NA)	209.5	72	84	(NA)	(NA)	(NA)	(NA)	4	(X)			
		1963	229	212.9	63	71	83	94	(NA)	74	77	(X)			
		1987	131	8 859.4	34	50	77	96	542	80	61	(X)			
		1982	143	7 138.2	40	55	79	95	581	76	68	(X)			
2869	Industrial organic chemicals, n.e.c. ²⁸	1977	135	5 637.0	42	60	79	95	(NA)	68	67	(X)			
		1972	124	2 049.6	34	52	77	96	(NA)	76	65	(X)			
		1970	(NA)	1 792.2	36	56	(NA)	(NA)	(NA)	(NA)	1	(X)			
		1967	115	1 596.8	45	64	83	97	(NA)	73	66	(X)			
		1966	120	1 212.8	53	71	88	⁹⁹⁺	(NA)	(NA)	(NA)	(X)			
		1987	491	41 812.1	31	48	68	86	376	75	84	(X)			
		1982	488	30 394.4	36	52	73	90	475	74	82	(X)			
		1977	384	24 232.8	38	55	73	90	(NA)	69	84	(X)			
		¹⁰ 1972	351	9 223.5	43	57	74	92	(NA)	72	85	(X)			
		1970	(NA)	7 373.8	44	58	(NA)	(NA)	(NA)	(NA)	1	(X)			
2873	Nitrogenous fertilizers	1967	339	6 377.8	45	58	75	92	(NA)	72	81	(X)			
		1966	(NA)	6 541.1	46	60	(NA)	(NA)	(NA)	(NA)	2	(X)			
		1963	343	4 840.2	51	63	79	93	(NA)	72	81	(X)			
		1958	250	3 070.2	55	70	85	96	(NA)	73	80	(X)			
		1954	202	2 198.7	59	73	87	(NA)	(NA)	77	80	(X)			
		1987	117	2 447.2	33	55	82	97	486	93	81	(X)			
		1982	109	3 391.1	32	57	87	99	515	88	79	(X)			
2874	Phosphatic fertilizers ⁵⁸	1977	110	2 603.4	34	54	82	99	(NA)	84	72	(X)			
		⁵⁷ 1972	47	799.4	35	53	84	100	(NA)	85	69	(X)			
		1987	55	3 819.3	48	74	98	⁹⁹⁺	880	92	96	(X)			
		1982	69	3 921.9	37	62	92	⁹⁹⁺	600	94	94	(X)			
2875	Fertilizers, mixing only ⁶⁰	1977	45	2 661.7	35	57	92	100	(NA)	93	91	(X)			
		⁵⁹ 1972	66	1 178.9	29	47	83	99	(NA)	89	92	(X)			
		1987	307	1 701.1	16	27	48	71	151	99	94	(X)			
		1982	372	1 903.4	19	29	50	72	170	97	94	(X)			
		1977	457	1 866.6	21	37	56	71	(NA)	95	98	(X)			
		1972	442	800.0	24	38	57	74	(NA)	96	97	(X)			
		1970	(NA)	703.1	24	37	(NA)	(NA)	(NA)	(NA)	3	(X)			
		1967	496	731.1	23	36	54	72	(NA)	96	97	(X)			
		1966	(NA)	734.9	21	36	(NA)	(NA)	(NA)	(NA)	2	(X)			
		1963	537	623.1	20	31	48	64	(NA)	94	96	(X)			
2879	Agricultural chemicals, n.e.c.	1958	514	355.1	18	28	47	64	(NA)	(NA)	(NA)	(X)			
		1954	437	329.3	20	29	46	(NA)	(NA)	95	44	(X)			
		1947	377	193.3	18	28	47	(NA)	(NA)	49	47	(X)			
		1987	233	6 299.7	49	69	88	94	789	77	83	(X)			
		1982	286	5 436.1	44	66	85	94	703	81	87	(X)			
2891	Adhesives and sealants	1977	338	2 780.4	44	64	78	89	(NA)	83	77	(X)			
		⁶¹ 1972	297	1 150.8	39	57	76	89	(NA)	87	72	(X)			
		1987	537	4 678.1	23	34	52	70	209	91	88	(X)			
		1982	518	2 857.9	21	33	50	70	199	90	84	(X)			
2892	Ink, paint, and varnish	1977	405	1 813.1	24	35	54	74	(NA)	89	81	(X)			
		⁶² 1972	317	928.0	19	31	52	76	(NA)	89	82	(X)			

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —										
				4 largest companies	8 largest companies	20 largest companies								
28	CHEMICALS AND ALLIED PRODUCTS— Con.													
2892	Explosives ⁵⁰	1987 77 1 117.8	53 72 92 99+	1 180	99	94	(X)							
	1982 73 922.7	59 77 92 99+	1 302	91	96									
	1977 63 666.3	64 79 96 99+	(NA)	86	95									
	1972 55 402.7	67 86 98 99+	(NA)	92	95									
	1970 (NA) 501.3	72 95 (NA) (NA)	(NA)	(NA)	(NA)									
	1967 37 647.0	67 91 99 100	(NA)	93	93									
	1966 (NA) 469.4	72 87 (NA) (NA)	(NA)	(NA)	(NA)									
	1963 41 283.3	72 86 99 100	(NA)	88	94									
	1958 45 222.5	77 89 98 100	(NA)	98	96									
	1954 40 389.6	79 92 99 100	(NA)	98	91									
	1947 35 136.4	80 89 98 100	(NA)	87	99									
2893	Printing ink	1987 224 2 391.7	45 55 72 87	743	98	97	(X)							
	1982 228 1 572.6	42 55 73 88	595	98	97									
	1977 205 944.9	43 57 74 89	(NA)	97	97									
	1972 213 508.4	39 54 75 88	(NA)	95	93									
	1970 (NA) 397.4	49 (S) (NA) (NA)	(NA)	(NA)	(NA)									
	1967 207 375.6	49 64 79 90	(NA)	93	95									
	1966 (NA) 377.0	48 58 (NA) (NA)	(NA)	(NA)	(NA)									
	1963 216 268.0	48 63 77 90	(NA)	93	92									
	1958 193 223.6	53 65 78 91	(NA)	91	97									
	1954 188 180.6	54 65 79 (NA)	(NA)	90	95									
	1947 151 115.7	57 69 81 (NA)	(NA)	92	78									
	1935 (NA) (NA)	49 60 (NA) (NA)	(NA)	(NA)	(NA)									
2895	Carbon black	1987 7 569.6	77 (D) (X) (X)	1 975	100	100	(X)							
	1982 8 632.9	73 100 (X) (X)	1 752	100	95									
	1977 8 468.4	70 100 (X) (X)	(NA)	100	95									
	1972 11 227.0	74 99+ 100 (X)	(NA)	100	95									
	1970 (NA) 169.7	(S) (S) (NA) (NA)	(NA)	(NA)	(NA)									
	1967 11 167.8	72 (D) 100 (X)	(NA)	100	100									
	1966 (NA) 187.8	70 100 (NA) (NA)	(NA)	(NA)	(NA)									
	1963 8 149.1	72 100 (X) (X)	(NA)	(NA)	(NA)									
2899	Chemical preparations, n.e.c.	1987 1 366 8 025.0	23 33 47 62	221	83	85	(X)							
	1982 1 245 6 344.3	22 32 46 63	197	85	84									
	1977 1 479 3 950.6	15 25 40 56	(NA)	87	77									
63	1972 1 485 2 202.3	16 26 41 58	(NA)	84	75									
	1970 (NA) 1 663.4	19 27 (NA) (NA)	(NA)	(NA)	(NA)									
	1967 1 275 1 381.6	19 28 43 62	(NA)	(NA)	(NA)									
	1966 (NA) 1 322.5	20 31 (NA) (NA)	(NA)	(NA)	(NA)									
	1963 1 312 964.6	20 30 46 64	(NA)	(NA)	(NA)									
	1987 200 118 186.2	32 52 78 95	435	99	100	(X)								
29	PETROLEUM AND COAL PRODUCTS													
2911	Petroleum refining ¹⁷ 64	1987 200 118 186.2	32 52 78 95	435	99	100	(X)							
2951	Asphalt paving mixtures and blocks	1987 542 4 346.2	19 27 37 53	133	94	94	(X)							
	1982 569 3 098.6	17 24 37 54	140	93	96									
	1977 590 1 578.3	17 23 35 51	(NA)	95	93									
	1972 585 922.5	15 23 34 51	(NA)	93	90									
	1970 (NA) 745.8	16 24 (NA) (NA)	(NA)	(NA)	(NA)									
	1967 553 584.6	14 22 35 51	(NA)	93	95									
	1966 (NA) 479.2	15 23 35 51	(NA)	(NA)	(NA)									
	1963 528 427.5	15 21 35 51	(NA)	92	89									
	1958 415 255.3	11 17 31 51	(NA)	93	89									
	1954 252 126.6	15 24 42 (NA)	(NA)	97	94									
	1947 182 51.0	19 30 45 (NA)	(NA)	99	88									
	1935 (NA) (NA)	48 63 (NA) (NA)	(NA)	(NA)	(NA)									
2952	Asphalt felts and coatings	1987 162 3 402.9	47 65 83 93	765	97	99	(X)							
	1982 147 2 849.5	45 68 87 96	777	95	98									
	1977 146 2 077.6	45 72 87 97	(NA)	91	97									
	1972 116 1 010.3	48 74 88 97	(NA)	93	96									
	1970 (NA) 689.9	38 65 (NA) (NA)	(NA)	(NA)	(NA)									
	1967 115 597.8	38 65 86 97	(NA)	91	95									
	1966 (NA) 589.4	38 65 (NA) (NA)	(NA)	(NA)	(NA)									
	1963 126 527.6	37 66 86 97	(NA)	90	92									
	1958 120 420.7	37 64 86 97	(NA)	90	92									
	1954 108 400.8	39 67 89 (NA)	(NA)	91	94									
	1947 104 338.2	42 65 87 (NA)	(NA)	95	95									
	1935 (NA) (NA)	42 68 (NA) (NA)	(NA)	(NA)	(NA)									
2992	Lubricating oils and greases ⁶⁵	1987 372 3 765.6	25 38 56 76	264	95	94	(X)							
	1982 401 2 875.3	28 38 54 74	275	94	95									
	1977 417 1 644.7	28 40 58 76	(NA)	94	94									
	1972 386 703.1	31 44 58 73	(NA)	94	95									
	1970 (NA) 553.5	39 52 (NA) (NA)	(NA)	(NA)	(NA)									
	1967 256 487.3	38 50 68 84	(NA)	93	32									
	1966 (NA) 527.4	36 48 (NA) (NA)	(NA)	(NA)	(NA)									
	1963 311 471.2	36 48 65 80	(NA)	91	33									
	1958 284 260.2	29 44 63 80	(NA)	83	25									
	1954 265 224.2	28 42 61 (NA)	(NA)	87	18									
	1947 205 169.3	36 48 66 (NA)	(NA)	89	19									
2999	Petroleum and coal products, n.e.c. ²⁸	1987 92 713.1	40 65 87 97	628	95	94	(X)							
	1982 100 738.8	61 77 91 99	1 426	94	89									
	1977 60 463.3	67 84 94 99+	(NA)	97	87									
	1972 42 137.6	74 89 93 100	(NA)	99	91									
	1970 (NA) 119.0	82 91 (NA) (NA)	(NA)	(NA)	(NA)									
	1967 38 79.8	82 92 99 100	(NA)	99	92									
	1966 (NA) 64.1	80 91 (NA) (NA)	(NA)	(NA)	(NA)									
	1963 59 71.5	70 84 96 99+	(NA)	96	91									

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁴	Primary product specialization ratio ⁵ (percent)	Coverage ratio ⁶ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —										
				4 largest companies	8 largest companies	20 largest companies								
29	PETROLEUM AND COAL PRODUCTS—Con.													
2999	Petroleum and coal products, n.e.c. ²⁸ —Con.	1958--	74	67.8	63	72	89	99	(NA)	95				
		1954--	39	58.5	58	72	95	100	(NA)	94				
30	RUBBER AND MISCELLANEOUS PLASTICS PRODUCTS													
3011	Tires and inner tubes	1987--	114	10 427.4	69	87	97	99+	1 897	98				
		1982--	108	9 340.1	66	86	98	99+	1 591	99				
		1977--	121	8 971.0	70	88	97	99+	(NA)	96				
		1972--	136	5 747.1	73	90	98	99+	(NA)	97				
		1970--	(NA)	4 587.2	72	89	(NA)	(NA)	(NA)	(NA)				
		1967--	119	3 733.9	70	88	97	100	(NA)	95				
		1966--	(NA)	3 715.8	71	90	(NA)	(NA)	(NA)	(NA)				
		1963--	105	2 949.7	70	89	97	99+	(NA)	99				
3021	Rubber and plastics footwear	1987--	54	557.2	39	66	96	99+	688	96				
		1982--	53	706.2	39	61	94	99+	609	96				
		1977--	67	517.0	58	73	95	99+	(NA)	93				
		⁶⁶ 1972--	82	600.0	59	70	89	99	(NA)	94				
		1970--	(NA)	515.0	58	76	(NA)	(NA)	(NA)	(NA)				
		1967--	51	427.0	59	75	92	(D)	(NA)	(NA)				
		1966--	(NA)	410.1	63	80	(NA)	(NA)	(NA)	(NA)				
		1963--	44	354.2	62	77	94	100	(NA)	93				
		1958--	22	219.0	65	82	(D)	100	(NA)	88				
		1954--	19	166.4	72	87	100	(X)	(NA)	84				
		1947--	20	198.7	81	93	100	(X)	(NA)	80				
		1935--	(NA)	(NA)	81	100	(NA)	(NA)	(NA)	99				
3052	Rubber and plastics hose and belting ⁴⁷	1987--	127	2 268.2	51	63	80	95	855	94				
		1982--	103	1 945.5	62	73	86	97	¹ 101	86				
		⁸⁷ 1972--	101	1 765.7	55	71	87	97	(NA)	88				
		66	1 020.1	52	72	91	99	(NA)	85	89				
3053	Gaskets, packing, and sealing devices ⁴⁷	1987--	439	2 379.3	23	36	54	72	226	95				
		1982--	409	1 666.0	18	32	55	72	190	93				
		1977--	384	1 267.1	25	39	58	77	(NA)	89				
		1972--	346	665.4	27	43	60	77	(NA)	81				
3061	Mechanical rubber goods ¹¹	1987--	537	3 963.2	18	30	49	70	172	88				
3069	Fabricated rubber products, n.e.c. ¹⁷	1987--	867	5 263.7	14	23	39	61	112	90				
3081	Unsupported plastics film and sheet ¹¹	1987--	472	8 139.9	24	32	50	71	226	89				
3082	Unsupported plastics profile shapes ¹¹	1987--	549	2 280.8	10	18	34	54	77	88				
3083	Laminated plastics plate, sheet, and profile shapes ¹¹	1987--	214	2 143.9	40	60	80	94	585	92				
3084	Plastics pipe ¹¹	1987--	184	2 455.8	25	39	59	81	274	94				
3085	Plastics bottles ¹¹	1987--	155	2 835.3	50	64	79	92	732	96				
3086	Plastics foam products ¹¹	1987--	653	6 912.8	19	30	48	68	173	94				
3087	Custom compounding of purchased plastics resins ¹¹	1987--	356	2 503.1	18	30	51	73	175	92				
3088	Plastics plumbing fixtures ¹¹	1987--	162	708.5	37	56	73	88	497	93				
3089	Plastics products, n.e.c. ¹¹	1987--	7 767	33 794.9	6	9	14	23	16	93				
31	LEATHER AND LEATHER PRODUCTS													
3111	Leather tanning and finishing	1987--	311	2 218.6	28	44	67	85	323	98				
		1982--	342	1 753.0	18	31	56	81	206	99				
		1977--	428	1 456.1	17	28	51	76	(NA)	99				
		1972--	468	1 059.5	17	28	48	71	(NA)	99				
		1970--	(NA)	793.3	21	32	(NA)	(NA)	(NA)	(NA)				
		1967--	474	870.1	20	31	50	71	(NA)	98				
		1966--	(NA)	940.5	19	30	(NA)	(NA)	(NA)	(NA)				
		1963--	482	758.4	18	30	47	70	(NA)	99				
		1958--	520	732.4	18	30	47	68	(NA)	100				
		1954--	525	706.2	18	28	45	(NA)	(NA)	100				
		1947--	500	1 070.3	27	39	55	(NA)	(NA)	100				
		1935--	(NA)	(NA)	22	34	(NA)	(NA)	(NA)	(NA)				
3131	Footwear cut stock	1987--	114	324.1	40	54	75	93	553	97				
		1982--	149	367.8	25	42	67	90	325	94				
		1977--	174	270.6	21	32	55	83	(NA)	92				
		1972--	225	206.5	17	27	49	75	(NA)	94				
		1970--	(NA)	247.0	(S)	(S)	(NA)	(NA)	(NA)	(NA)				
		1967--	348	262.8	19	28	44	64	(NA)	94				
		1966--	(NA)	282.8	19	25	(NA)	(NA)	(NA)	(NA)				
		1963--	414	229.3	20	27	40	60	(NA)	93				
		1958--	472	243.0	19	29	41	58	(NA)	95				
		1954--	522	246.4	22	32	44	(NA)	(NA)	95				
		1947--	544	294.3	30	41	55	(NA)	(NA)	96				
		1935--	(NA)	(NA)	32	42	(NA)	(NA)	(NA)	97				

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

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SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
31	LEATHER AND LEATHER PRODUCTS— Con.														
3142	House slippers ²⁷ -----	34	232.5	77	88	99	100	2 208	89	96	(X)				
	1982--	53	275.8	60	76	94	(D)	1 262	96	98	(X)				
	1977--	65	201.2	44	64	87	99	(NA)	94	96	(X)				
	1972--	83	151.4	39	58	80	97	(NA)	95	87	(X)				
	1970--	(NA)	175.3	28	44	(NA)	(NA)	(NA)	(NA)	(NA)	4				
	1967--	125	181.0	22	37	63	88	(NA)	92	93	(X)				
	1966--	(NA)	162.0	18	31	(NA)	(NA)	(NA)	(NA)	(NA)	8				
	1963--	149	123.6	20	34	58	84	(NA)	90	85	(X)				
	1958--	159	111.0	18	30	56	83	(NA)	90	85	(X)				
	1954--	170	90.5	19	31	54	(NA)	(NA)	89	87	(X)				
3143	Men's footwear, except athletic -----	110	2 104.8	26	44	74	97	359	91	96	(X)				
	1982--	129	2 261.4	28	45	74	96	378	89	95	(X)				
	1977--	115	1 734.5	31	46	73	95	(NA)	92	96	(X)				
	1972--	118	1 288.9	34	51	74	95	(NA)	93	97	(X)				
3144	Women's footwear, except athletic -----	123	1 316.0	50	61	76	95	1 035	93	88	(X)				
	1982--	209	1 932.2	38	47	64	84	492	94	90	(X)				
	1977--	243	1 361.2	29	39	56	79	(NA)	97	92	(X)				
	1972--	294	1 346.1	32	42	56	76	(NA)	97	95	(X)				
3149	Footwear, except rubber, n.e.c.-----	119	419.3	24	42	74	95	330	94	82	(X)				
	1982--	167	798.9	26	41	68	93	336	82	81	(X)				
	1977--	159	594.8	24	41	68	91	(NA)	84	83	(X)				
	1972--	153	485.8	30	42	65	87	(NA)	88	85	(X)				
3151	Leather gloves and mittens -----	67	184.8	41	56	78	98	696	83	93	(X)				
	1982--	80	177.6	38	56	82	97	581	86	81	(X)				
	1977--	84	178.0	38	54	79	97	(NA)	83	85	(X)				
	1972--	95	98.2	35	50	74	95	(NA)	92	85	(X)				
	1970--	(NA)	96.4	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	8				
	1967--	136	86.7	30	43	65	89	(NA)	90	84	(X)				
	1966--	(NA)	89.6	25	36	(NA)	(NA)	(NA)	(NA)	(NA)	10				
	1963--	160	80.6	22	34	57	84	(NA)	81	89	(X)				
3161	Luggage -----	234	928.9	41	56	73	87	623	97	94	(X)				
	1982--	286	789.0	41	51	69	83	669	93	95	(X)				
	1977--	286	654.9	40	50	66	85	(NA)	94	98	(X)				
	1972--	266	364.5	39	50	65	82	(NA)	92	97	(X)				
	1970--	(NA)	312.4	38	51	(NA)	(NA)	(NA)	(NA)	(NA)	5				
	1967--	328	334.2	34	45	59	77	(NA)	96	94	(X)				
	1966--	(NA)	275.8	35	45	(NA)	(NA)	(NA)	(NA)	(NA)	8				
	1963--	377	210.3	31	40	55	73	(NA)	95	94	(X)				
3171	Women's handbags and purses -----	316	548.8	31	45	66	83	415	91	99	(X)				
	1982--	383	623.7	30	38	55	75	487	96	94	(X)				
	1977--	404	505.2	21	31	48	70	(NA)	97	97	(X)				
	1972--	431	365.0	14	23	39	61	(NA)	95	97	(X)				
	1970--	(NA)	280.2	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	5				
	1967--	488	327.2	10	17	30	52	(NA)	98	98	(X)				
	1966--	(NA)	291.9	11	19	(NA)	(NA)	(NA)	(NA)	(NA)	11				
	1963--	539	280.3	11	18	31	51	(NA)	98	98	(X)				
	1958--	613	227.4	10	15	27	48	(NA)	96	98	(X)				
	1954--	710	188.8	8	14	26	(NA)	(NA)	97	98	(X)				
	1947--	725	163.3	7	13	23	(NA)	(NA)	99	97	(X)				
3172	Personal leather goods, n.e.c.-----	205	393.3	32	47	70	90	465	95	83	(X)				
	1982--	239	411.4	30	43	65	85	363	94	83	(X)				
	1977--	253	366.8	38	49	67	86	(NA)	96	91	(X)				
	1972--	238	242.2	37	47	66	84	(NA)	94	91	(X)				
	1970--	(NA)	235.7	31	41	(NA)	(NA)	(NA)	(NA)	(NA)	10				
	1967--	293	186.2	33	44	60	78	(NA)	94	92	(X)				
	1966--	(NA)	195.8	32	45	(NA)	(NA)	(NA)	(NA)	(NA)	6				
	1963--	325	159.0	31	45	60	78	(NA)	96	92	(X)				
3199	Leather goods, n.e.c.-----	379	411.3	20	32	50	70	181	90	91	(X)				
	1982--	400	327.4	16	26	46	68	144	96	94	(X)				
	1977--	512	284.2	13	24	44	65	(NA)	94	95	(X)				
68	1972--	433	161.3	17	26	43	63	(NA)	92	90	(X)				
	1970--	(NA)	118.0	20	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	10				
	1967--	358	96.5	19	28	45	67	(NA)	94	87	(X)				
	1966--	(NA)	90.9	19	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	14				
69	1963--	365	67.1	17	26	44	66	(NA)	94	82	(X)				
69	1958--	429	54.4	14	21	(NA)	(NA)	(NA)	96	84	(X)				
32	STONE, CLAY, AND GLASS PRODUCTS														
3211	Flat glass ⁷⁰ -----	65	2 549.3	82	(D)	(D)	99+	1 968	97	100	(X)				
	70	1982--	49	1 665.5	85	(D)	100	2 032	95	(D)	(X)				
	70	1977--	43	1 576.6	90	99	99+	100	(NA)	90	(D)				
	1972--	11	937.1	92	(D)	100	(X)	(NA)	85	(D)	(X)				
	1970--	(NA)	669.6	92	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	70	1967--	39	611.3	94	98	99	100	(NA)	85	(D)				
	1966--	(NA)	638.1	96	99+	(NA)	(NA)	(NA)	(NA)	(NA)	(X)				
	1963--	11	549.4	94	99+	100	(X)	(NA)	(D)	(D)	(X)				
	1958--	13	382.7	92	99	100	(X)	(NA)	(D)	(D)	(X)				
	1954--	16	370.5	90	99	100	(X)	(NA)	90	(D)	(X)				

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
32	STONE, CLAY, AND GLASS PRODUCTS— Con.														
3221	Glass containers	1987—	35	4 777.9	78	89	99+	100	2 126	99	100	(X)			
		1982—	41	5 216.8	50	73	98	99+	966	99	99+	(X)			
		1977—	31	3 664.2	54	75	98	100	(NA)	99	99	(X)			
		1972—	27	2 126.5	55	76	98	100	(NA)	99	99	(X)			
		1970—	(NA)	1 863.9	57	78	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967—	39	1 352.4	60	75	95	100	(NA)	99	99	(X)			
		1966—	(NA)	1 207.5	59	74	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963—	40	1 004.5	55	72	92	100	(NA)	99	99	(X)			
		1958—	42	855.8	58	75	93	100	(NA)	99	99	(X)			
		1954—	38	635.1	63	78	92	100	(NA)	98	99	(X)			
		1947—	41	422.6	63	79	93	100	(NA)	(D)	(D)	(X)			
3229	Pressed and blown glass, n.e.c.	1987—	362	3 560.9	56	76	92	96	952	99	97	(X)			
		1982—	278	2 724.0	61	80	94	98	1 107	97	77	(X)			
		1977—	325	2 120.1	61	78	92	97	(NA)	97	84	(X)			
		1972—	211	1 267.3	66	82	93	98	(NA)	96	83	(X)			
		1970—	(NA)	1 052.0	67	82	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967—	139	886.2	71	83	93	99	(NA)	97	80	(X)			
		1966—	(NA)	926.6	72	85	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963—	75	630.9	68	81	93	99	(NA)	96	97	(X)			
		1958—	111	441.0	64	79	90	96	(NA)	98	98	(X)			
		1954—	255	411.3	67	77	88	(NA)	(NA)	98	96	(X)			
		1947—	107	234.8	51	65	80	(NA)	(NA)	96	91	(X)			
3231	Products of purchased glass	1987—	1 324	5 429.2	28	40	56	70	322	99	93	(X)			
		1982—	1 228	2 976.5	30	38	50	66	314	95	(D)	(X)			
		1977—	1 000	1 842.4	31	39	53	68	(NA)	95	(D)	(X)			
		1972—	842	1 330.1	43	53	65	77	(NA)	90	(D)	(X)			
		1970—	(NA)	959.8	43	51	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1967—	845	794.7	42	50	61	74	(NA)	90	(D)	(X)			
		1966—	(NA)	754.1	40	50	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1963—	1 016	627.3	43	49	59	70	(NA)	(D)	(D)	(X)			
3241	Cement, hydraulic	1987—	123	4 335.4	28	47	78	98	398	99	99	(X)			
		1982—	119	3 542.0	31	52	81	99	469	98	99	(X)			
		1977—	87	3 042.3	24	41	74	99	(NA)	99	99	(X)			
		1972—	75	1 791.2	26	46	79	99+	(NA)	99	99	(X)			
		1970—	(NA)	1 376.3	27	48	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967—	66	1 246.5	29	49	82	99+	(NA)	99	99	(X)			
		1966—	(NA)	1 253.4	30	51	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963—	55	1 176.9	29	49	82	99+	(NA)	99	100	(X)			
		1958—	62	1 069.4	32	50	78	99	(NA)	99	100	(X)			
		1954—	67	811.1	31	48	73	(NA)	(NA)	99	100	(X)			
		1947—	73	408.9	30	45	70	(NA)	(NA)	100	100	(X)			
		1935—	(NA)	29	44	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
3251	Brick and structural clay tile	1987—	167	1 254.0	29	47	64	83	339	98	99	(X)			
		1982—	195	657.3	24	35	53	76	263	98	99	(X)			
		1977—	250	777.7	21	31	48	70	(NA)	97	99	(X)			
		1972—	314	513.0	17	26	42	64	(NA)	98	99	(X)			
		1970—	(NA)	401.5	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	7			
		1967—	377	362.0	14	22	35	57	(NA)	98	99	(X)			
		1966—	(NA)	386.8	13	21	(NA)	(NA)	(NA)	(NA)	(NA)	5			
		1963—	401	325.1	12	19	33	54	(NA)	98	98	(X)			
		1958—	471	278.5	12	20	33	50	(NA)	96	98	(X)			
		1954—	510	250.4	13	20	34	(NA)	(NA)	96	98	(X)			
		1947—	574	144.5	10	17	30	(NA)	(NA)	95	97	(X)			
3253	Ceramic wall and floor tile	1987—	95	717.4	65	80	95	99+	1 510	100	99	(X)			
		1982—	77	406.9	64	79	95	99+	1 555	100	97	(X)			
		1977—	62	252.5	60	79	96	99+	(NA)	99	95	(X)			
		1972—	64	175.6	56	71	90	99+	(NA)	98	96	(X)			
		1970—	(NA)	154.1	56	78	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967—	57	160.5	52	76	94	99+	(NA)	93	99	(X)			
		1966—	(NA)	162.1	51	74	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963—	71	164.7	49	69	88	99+	(NA)	95	99	(X)			
3255	Clay refractories	1987—	111	788.2	35	56	79	94	489	94	89	(X)			
		1982—	104	670.3	42	63	83	96	648	92	94	(X)			
		1977—	98	607.2	47	67	86	98	(NA)	89	95	(X)			
		1972—	86	336.0	49	68	89	99	(NA)	87	92	(X)			
		1970—	(NA)	332.8	43	63	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1967—	83	246.1	44	64	86	99	(NA)	92	92	(X)			
		1966—	(NA)	267.1	41	62	(NA)	(NA)	(NA)	(NA)	(NA)	4			
		1963—	80	192.2	41	60	83	98	(NA)	91	93	(X)			
		1958—	104	157.5	43	61	81	95	(NA)	93	95	(X)			
		1954—	113	136.4	43	60	79	(NA)	(NA)	92	95	1			
		1947—	108	109.3	41	57	76	(NA)	(NA)	93	94	(X)			
3259	Structural clay products, n.e.c.	1987—	58	155.2	39	66	90	99+	635	99	96	(X)			
		1982—	67	133.6	46	66	90	99+	944	98	96	(X)			
		1977—	94	214.6	40	60	85	97	(NA)	94	92	(X)			
		1972—	88	180.7	39	66	88	99	(NA)	95	96	(X)			
		1970—	(NA)	161.6	36	58	(NA)	(NA)	(NA)	(NA)	(NA)	4			
		1967—	110	152.9	31	51	79	95	(NA)	91	96	(X)			
		1966—	(NA)	155.7	33	52	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1963—	126	159.7	36	55	79	94	(NA)	89	95	(X)			
3261	Vitreous plumbing fixtures	1987—	48	790.6	64	83	98	100	1 283	96	99	(X)			
		1982—	41	474.0	63	85	99	100	1 360	91	99	(X)			
		1977—	54	411.4	62	82	98	99+	(NA)	92	95	(X)			
		1972—	42	270.0	58	83	99	100	(NA)	90	92	(X)			
		1970—	(NA)	209.7	57	82	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967—	34	170.0	62	84	99	100	(NA)	95	96	(X)			
		1966—	(NA)	180.7	56	77	(NA)	(NA)	(NA)	(NA)	(NA)	6			
		1963—	34	155.7	57	78	98	100	(NA)	97	97	(X)			

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

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SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
32	STONE, CLAY, AND GLASS PRODUCTS—Con.														
3261	Vitreous plumbing fixtures—Con.														
1958--	35	130.8	54	75	96	100	(NA)	97	97	(X)					
1954--	25	116.3	65	84	99	100	(NA)	99	99	(X)					
1947--	26	68.1	58	82	99+	100	(NA)	98	99	(X)					
3262	Vitreous china table and kitchenware														
1987--	32	298.4	78	96	99+	100	2 507	(D)	99	(X)					
1982--	31	241.6	67	90	99	100	1 562	84	98	(X)					
1977--	26	170.7	71	94	99+	100	(NA)	80	97	(X)					
1972--	32	81.9	75	90	99	100	(NA)	90	88	(X)					
1967--	35	67.2	70	88	98	100	(NA)	90	89	(X)					
1966--	(NA)	60.0	75	93	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1963--	26	51.0	69	88	99+	100	(NA)	90	91	(X)					
1958--	26	47.3	60	80	99	100	(NA)	96	96	(X)					
1954--	32	44.5	55	73	97	100	(NA)	95	96	(X)					
1947--	26	43.2	56	75	99	100	(NA)	97	96	(X)					
3263	Semivitreous table and kitchenware														
1987--	43	93.0	(D)	89	98	100	(D)	(D)	(D)	(X)					
1982--	38	87.6	63	81	98	100	1 392	87	82	(X)					
1977--	22	81.3	68	(D)	(D)	100	(NA)	85	76	(X)					
1972--	17	74.3	65	90	100	(X)	(NA)	70	97	(X)					
1970--	(NA)	48.7	62	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1967--	20	47.1	61	87	100	(X)	(NA)	86	86	(X)					
1966--	(NA)	47.6	61	87	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1963--	20	59.0	57	83	100	(X)	(NA)	92	91	(X)					
1958--	29	49.4	43	69	98	100	(NA)	98	91	(X)					
1954--	46	66.4	37	57	88	100	(NA)	98	92	(X)					
1947--	74	72.1	38	57	87	(NA)	(NA)	92	97	(X)					
3264	Porcelain electrical supplies														
1987--	104	714.2	41	56	78	96	694	94	87	(X)					
1982--	79	528.0	47	63	83	98	689	85	87	(X)					
1977--	77	367.5	48	64	84	98	(NA)	86	82	(X)					
1972--	74	274.6	46	70	88	99	(NA)	91	95	(X)					
1970--	(NA)	220.1	53	69	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1967--	65	225.0	47	70	90	99+	(NA)	85	98	(X)					
1966--	(NA)	197.1	49	69	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1963--	74	131.8	46	67	88	99+	(NA)	91	95	(X)					
1958--	57	92.6	46	68	89	99	(NA)	92	93	(X)					
1954--	42	77.9	46	70	92	100	(NA)	94	87	(X)					
1947--	47	71.5	44	64	90	100	(NA)	89	93	(X)					
3269	Pottery products, n.e.c.														
1987--	748	519.7	28	36	53	70	429	89	88	(X)					
1982--	682	430.6	32	42	56	75	370	98	86	(X)					
1977--	713	230.0	19	31	48	68	(NA)	95	85	(X)					
1972--	417	134.0	20	35	55	75	(NA)	97	84	(X)					
1970--	(NA)	104.4	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1967--	424	96.1	28	37	55	75	(NA)	97	87	(X)					
1963--	449	95.5	32	41	58	75	(NA)	87	89	(X)					
3271	Concrete block and brick														
1987--	975	2 245.5	7	12	21	35	33	94	88	(X)					
1982--	1 039	1 301.8	8	12	19	31	31	95	87	(X)					
1977--	1 162	1 143.8	4	6	12	23	(NA)	93	85	(X)					
1972--	1 300	855.7	5	8	14	25	(NA)	93	85	(X)					
1970--	(NA)	652.3	5	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1967--	1 534	550.1	4	7	13	23	(NA)	92	86	(X)					
1966--	(NA)	585.9	4	7	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1963--	1 786	505.2	5	7	12	22	(NA)	92	84	(X)					
3272	Concrete products, n.e.c.														
1987--	2 687	5 828.4	8	13	23	36	36	97	97	(X)					
1982--	2 750	3 649.2	10	16	26	39	49	97	95	(X)					
1977--	3 475	2 736.2	9	14	23	35	(NA)	96	95	(X)					
1972--	3 198	1 961.4	10	15	24	37	(NA)	96	95	(X)					
1970--	(NA)	1 495.7	11	17	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1967--	3 055	1 201.1	11	17	28	39	(NA)	96	94	(X)					
1966--	(NA)	1 189.7	13	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1963--	3 130	925.7	17	23	32	42	(NA)	94	94	(X)					
3273	Ready-mixed concrete														
1987--	3 749	12 966.3	8	11	18	27	25	95	98	(X)					
1982--	4 161	8 163.3	6	9	16	24	18	95	98	(X)					
1977--	4 317	6 440.6	5	8	14	23	(NA)	93	98	(X)					
1972--	3 978	4 050.9	6	10	16	25	(NA)	(NA)	(NA)	(X)					
1970--	(NA)	3 142.6	6	10	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1967--	4 032	2 684.2	6	9	16	24	(NA)	93	98	(X)					
1966--	(NA)	2 527.8	5	8	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1963--	3 999	2 292.5	4	7	13	22	(NA)	92	98	(X)					
1958--	3 104	1 559.3	4	7	13	21	(NA)	94	97	(X)					
3274	Lime														
1987--	56	715.5	43	59	85	99+	638	90	90	(X)					
1982--	59	543.2	36	53	80	99+	504	89	92	(X)					
1977--	64	484.2	35	50	79	99+	(NA)	92	92	(X)					
1972--	68	238.1	37	53	79	99+	(NA)	89	92	(X)					
1970--	(NA)	201.2	36	54	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1967--	78	176.5	35	54	79	99	(NA)	87	93	(X)					
1966--	(NA)	197.9	31	47	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1963--	81	164.4	37	56	82	99	(NA)	82	94	(X)					
1958--	94	129.7	38	57	80	98	(NA)	84	95	(X)					
1954--	113	109.2	35	53	80	(NA)	(NA)	84	97	(X)					
1947--	132	72.8	30	47	69	(NA)	(NA)	93	97	(X)					
3275	Gypsum products														
1987--	80	2 670.9	75	84	95	99+	1 887	97	98	(X)					
1982--	70	1 289.2	76	86	97	99+	1 993	93	98	(X)					
1977--	58	1 000.0	79	91	99	99+	(NA)	96	98	(X)					
1972--	44	640.3	80	93	99+	100	(NA)	95	99	(X)					
1970--	(NA)	419.5	79	91	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1967--	55	387.7	80	93	99+	99+	(NA)	96	98	(X)					
1966--	(NA)	394.4	80	95	(NA)	(NA)	(NA)	(NA)	(NA)	(X)					
1963--	60	425.1	84	97	99+	99+	(NA)	97	98	(X)					

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			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
32	STONE, CLAY, AND GLASS PRODUCTS—Con.														
3275	Gypsum products—Con.														
	1958--	72	350.6	88	96	98	99	(NA)	97	98	(X)				
	1954--	48	282.2	90	97	99	100	(NA)	95	98	(X)				
	1947--	33	127.5	85	94	99+	100	(NA)	97	98	(X)				
3281	Cut stone and stone products														
	1987--	731	840.8	24	28	68	52	329	98	98	(X)				
	1982--	698	555.4	23	30	42	55	251	97	98	(X)				
	1977--	963	393.0	14	20	30	43	(NA)	96	95	(X)				
	1972--	874	304.5	18	24	35	48	(NA)	96	98	(X)				
	1970--	(NA)	248.3	20	28	(NA)	(NA)	(NA)	(NA)	(NA)	4				
	1967--	776	236.4	18	27	37	51	(NA)	95	99	(X)				
	1966--	(NA)	224.2	17	25	(NA)	(NA)	(NA)	(NA)	(NA)	14				
	1963--	857	217.2	20	28	38	51	(NA)	94	99	(X)				
	1958--	959	198.5	16	24	32	44	(NA)	96	97	(X)				
	1954--	961	181.8	12	21	30	(NA)	(NA)	93	99	(X)				
	1947--	629	67.3	8	13	21	(NA)	100	98	(X)					
3291	Abrasive products														
	1987--	359	3 621.4	(D)	70	78	86	1 889	82	94	(X)				
	1982--	326	2 750.7	63	71	80	88	1 688	83	95	(X)				
	1977--	353	1 955.8	58	65	77	87	(NA)	90	97	(X)				
	1972--	335	888.1	49	60	74	87	(NA)	93	88	(X)				
	1970--	(NA)	772.8	48	58	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967--	320	725.3	48	57	71	85	(NA)	91	85	(X)				
	1966--	(NA)	1 015.6	56	63	(NA)	(NA)	(NA)	(NA)	(NA)	4				
	1963--	340	704.2	58	67	77	88	(NA)	(D)	95	(X)				
	1958--	318	466.6	58	68	77	88	(NA)	83	96	(X)				
	1954--	290	332.5	50	58	71	(NA)	(NA)	94	87	(X)				
	1947--	236	225.4	49	56	72	(NA)	(NA)	94	86	(X)				
	1935--	(NA)	(NA)	67	74	(NA)	(NA)	(NA)	(NA)	(NA)					
3292	Asbestos products														
	1987--	50	386.5	72	85	94	100	1 750	94	90	(X)				
	1982--	77	842.8	51	70	92	99	914	92	91	(X)				
	1977--	86	882.1	42	64	90	98	(NA)	92	81	(X)				
	71972--	88	763.4	50	71	91	99	(NA)	91	88	(X)				
	1970--	(NA)	587.0	54	75	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967--	81	575.0	55	75	94	99+	(NA)	93	90	(X)				
	1966--	(NA)	591.1	56	74	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1963--	73	509.2	56	76	95	99+	(NA)	95	91	(X)				
	1958--	69	433.3	59	76	95	99	(NA)	89	92	(X)				
	1954--	74	346.2	60	77	(NA)	(NA)	(NA)	87	93	(X)				
	1947--	85	206.2	(NA)	(NA)	(NA)	(NA)	(NA)	87	90					
3295	Minerals, ground or treated														
	1987--	239	1 406.2	24	34	57	82	238	96	95	(X)				
	1982--	279	1 269.9	30	43	63	83	342	98	93	(X)				
	1977--	318	957.3	27	42	65	82	(NA)	96	90	(X)				
	1972--	345	412.0	25	36	54	75	(NA)	95	89	(X)				
	1970--	(NA)	384.8	25	36	(NA)	(NA)	(NA)	(NA)	(NA)	3				
	1967--	382	280.9	26	36	56	76	(NA)	96	89	(X)				
	1966--	(NA)	292.1	24	39	(NA)	(NA)	(NA)	(NA)	(NA)	6				
	1963--	313	204.4	24	38	59	79	(NA)	94	86	(X)				
3296	Mineral wool														
	1987--	173	3 260.3	71	85	92	97	1 517	96	98	(X)				
	1982--	130	2 281.1	75	87	95	99	2 081	97	97	(X)				
	1977--	95	1 790.5	72	85	95	99+	(NA)	93	96	(X)				
	1972--	66	755.4	75	89	97	99+	(NA)	93	93	(X)				
	1970--	(NA)	524.9	73	85	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967--	77	454.4	71	84	95	99	(NA)	92	95	(X)				
	1966--	(NA)	461.0	71	83	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1963--	89	391.9	67	83	95	99	(NA)	90	96	(X)				
3297	Nonclay refractories														
	1987--	99	954.5	34	53	80	97	471	90	85	(X)				
	1982--	77	691.0	47	66	91	99	733	86	82	(X)				
	1977--	74	680.2	46	67	89	99	(NA)	92	83	(X)				
	1972--	61	434.6	42	65	90	99+	(NA)	94	84	(X)				
	1970--	(NA)	353.8	38	60	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1967--	59	307.1	38	58	89	99+	(NA)	90	88	(X)				
	1966--	(NA)	333.1	42	61	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1963--	51	250.2	49	66	91	(D)	(NA)	94	88	(X)				
3299	Nonmetallic mineral products, n.e.c.														
	1987--	534	597.1	23	33	450	67	198	90	87	(X)				
	1982--	569	422.3	34	49	65	78	427	95	87	(X)				
	1977--	681	387.3	37	48	66	78	(NA)	93	89	(X)				
	1972--	480	166.5	28	36	53	70	(NA)	94	90	(X)				
	1970--	(NA)	97.2	41	53	(NA)	(NA)	(NA)	(NA)	(NA)	10				
	1967--	325	99.9	37	49	66	82	(NA)	82	89	(X)				
	1966--	(NA)	115.9	35	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	11				
	1963--	313	96.2	37	48	66	82	(NA)	86	96	(X)				
33	PRIMARY METAL INDUSTRIES														
3312	Blast furnaces and steel mills ⁹ 73														
	1987--	271	15 804.7	44	63	81	94	607	98	97	(X)				
	1982--	211	11 763.3	42	64	82	95	650	98	(NA)	(X)				
	1977--	395	15 331.9	45	65	84	95	(NA)	97	(D)	(X)				
	1972--	241	10 304.7	45	65	84	96	(NA)	95	(D)	(X)				
	1970--	(NA)	9 328.3	47	65	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967--	200	8 910.1	48	66	83	96	(NA)	(NA)	(NA)	(X)				
	1966--	(NA)	9 643.6	49	66	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1963--	161	7 699.5	48	67	85	95	(NA)	(NA)	(NA)	(X)				
	1958--	148	5 980.0	53	70	84	96	(NA)	(NA)	(NA)	(X)				
	721954--	(NA)	5 014.4	55	71	86	(NA)	(NA)	(NA)	(NA)	(X)				
	721947--	(NA)	2 844.6	50	66	81	(NA)	(NA)	(NA)	(NA)	(X)				

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —										
				4 largest companies	8 largest companies	20 largest companies								
33	PRIMARY METAL INDUSTRIES—Con.													
3313	Electrometallurgical products ⁷³	1987--	25	843.8	55	78	99+	100	1 208	95	83	(X)		
		1982--	32	707.5	51	74	99	100	1 159	97	87	(X)		
		1977--	28	930.6	69	84	99+	100	(NA)	(D)	90	(X)		
		1972--	27	550.1	74	90	99+	100	(NA)	95-100	87	(X)		
		1970--	(NA)	515.7	77	93	(NA)	(NA)	(NA)	(NA)	1			
		1967--	21	467.9	74	90	(D)	100	(NA)	90-100	82	(X)		
		1966--	(NA)	509.3	74	91	(NA)	(NA)	(NA)	(NA)	2			
		1963--	20	382.1	79	95	100	(X)	(NA)	85-90	77	(X)		
		1958--	19	397.3	73	91	100	(X)	(NA)	96	76	(X)		
		1954--	17	271.8	77	93	100	(X)	(NA)	92	68	(X)		
		1947--	10	150.9	88	(D)	100	(X)	(NA)	88	(NA)	(X)		
3315	Steel wire and related products ^{28 73}	1987--	274	3 330.3	21	34	54	78	212	96	88	(X)		
		1982--	252	2 420.9	22	32	54	78	241	97	(NA)	(X)		
		1977--	262	2 258.6	21	32	52	76	(NA)	95	(NA)	(X)		
		1972--	234	1 227.7	18	30	52	77	(NA)	94	(NA)	(X)		
		1970--	(NA)	965.3	26	38	(NA)	(NA)	(NA)	(NA)	2			
		1967--	200	845.2	24	34	53	78	(NA)	90	(NA)	(X)		
		1966--	(NA)	799.6	26	38	(NA)	(NA)	(NA)	(NA)	2			
		1963--	171	592.3	28	39	59	85	(NA)	89	(NA)	(X)		
3316	Cold finishing of steel shapes ⁷³	1987--	156	5 216.3	45	62	82	95	654	80	94	(X)		
		1982--	146	3 005.1	42	58	77	95	659	92	(NA)	(X)		
		1977--	118	2 713.2	37	54	80	97	(NA)	95	(NA)	(X)		
		1972--	85	1 635.7	40	56	82	99	(NA)	91	(NA)	(X)		
		1970--	(NA)	1 122.1	35	52	(NA)	(NA)	(NA)	(NA)	3			
		1967--	77	1 038.7	34	51	77	98	(NA)	90	(NA)	(X)		
		1966--	(NA)	975.7	34	51	(NA)	(NA)	(NA)	(NA)	2			
		1963--	59	751.6	36	55	82	99+	(NA)	94	(NA)	(X)		
3317	Steel pipe and tubes ⁷³	1987--	155	3 856.3	23	34	58	85	242	91	92	(X)		
		1982--	170	3 762.2	24	39	64	87	279	94	(NA)	(X)		
		1977--	130	2 681.4	24	39	68	91	(NA)	95	(NA)	(X)		
		1972--	115	1 292.1	23	40	70	92	(NA)	93	(NA)	(X)		
		1970--	(NA)	1 026.9	25	40	(NA)	(NA)	(NA)	(NA)	2			
		1967--	123	1 148.6	26	41	72	92	(NA)	89	(NA)	(X)		
		1966--	(NA)	1 072.3	26	43	(NA)	(NA)	(NA)	(NA)	2			
		1963--	114	809.0	27	42	71	93	(NA)	91	(NA)	(X)		
3321	Gray and ductile iron foundries ⁷⁴	1987--	692	7 213.1	30	44	59	75	348	96	96	(X)		
		1982--	801	6 202.2	29	37	53	69	348	94	91	(X)		
		1977--	865	7 388.7	34	44	60	73	(NA)	96	88	(X)		
		1972--	893	3 876.5	34	45	59	71	(NA)	94	87	(X)		
		1970--	(NA)	3 034.9	30	40	(NA)	(NA)	(NA)	(NA)	1			
		1967--	969	2 637.8	27	36	50	64	(NA)	93	86	(X)		
		1966--	(NA)	2 728.2	27	37	(NA)	(NA)	(NA)	(NA)	2			
		1963--	1 062	1 984.9	28	37	51	65	(NA)	93	88	(X)		
		1958--	1 199	1 406.4	24	33	47	61	(NA)	95	87	(X)		
		1954--	1 321	1 418.9	26	34	46	(NA)	(NA)	94	87	(X)		
		1947--	1 554	1 173.0	16	24	35	(NA)	(NA)	92	87	(X)		
3322	Malleable iron foundries	1987--	27	283.4	73	88	99+	100	(D)	93	77	(X)		
		1982--	46	323.2	61	77	94	100	1 949	89	77	(X)		
		1977--	58	721.9	54	72	88	99+	(NA)	86	93	(X)		
		1972--	64	507.9	52	66	83	99	(NA)	87	91	(X)		
		1970--	(NA)	403.0	42	56	(NA)	(NA)	(NA)	(NA)	1			
		1967--	72	438.3	47	59	77	97	(NA)	85	89	(X)		
		1966--	(NA)	449.4	48	60	(NA)	(NA)	(NA)	(NA)	2			
		1963--	76	317.5	46	58	76	96	(NA)	87	87	(X)		
		1958--	73	210.8	42	56	73	96	(NA)	87	90	(X)		
		1954--	71	212.4	50	59	76	(NA)	(NA)	86	89	(X)		
		1947--	68	184.4	35	48	69	(NA)	(NA)	88	91	(X)		
3324	Steel investment foundries	1987--	120	1 450.8	59	70	82	96	1 860	91	98	(X)		
		1982--	117	1 024.6	49	60	74	92	1 119	91	96	(X)		
		1977--	80	407.5	56	66	81	97	(NA)	93	86	(X)		
		1972--	67	262.2	56	67	87	98	(NA)	86	94	(X)		
3325	Steel foundries, n.e.c.	1987--	270	1 680.4	18	28	49	75	185	93	94	(X)		
		1982--	290	2 091.4	21	31	52	75	193	90	92	(X)		
		1977--	287	2 312.1	26	38	56	77	(NA)	87	91	(X)		
		1972--	225	1 067.4	24	37	58	79	(NA)	89	88	(X)		
3331	Primary copper ^{9 73}	1987--	8	443.4	(D)	(D)	(X)	(X)	(D)	95	77	(X)		
		1982--	7	440.4	(D)	(D)	(X)	(X)	2 673	91	69	(X)		
		1977--	8	904.3	87	100	(X)	(X)	(NA)	86	83	(X)		
		1972--	11	487.8	72	(D)	100	(X)	(NA)	89	82	(X)		
		1970--	(NA)	673.0	75	98	(NA)	(NA)	(NA)	(NA)	1			
		1967--	15	262.6	77	98	100	(X)	(NA)	93	74	(X)		
		1966--	(NA)	362.5	71	97	(NA)	(NA)	(NA)	(NA)	2			
		1963--	13	285.5	78	98	100	(X)	(NA)	(NA)	(NA)			
		1958--	11	161.7	87	99	100	(X)	(NA)	(NA)	(NA)			
3334	Primary aluminum ⁷³	1987--	34	5 005.7	74	95	99+	100	1 934	95	100	(X)		
		1982--	15	5 037.1	64	88	100	(X)	1 704	97	73	(X)		
		1977--	12	4 647.8	76	93	100	(X)	(NA)	95	70	(X)		
		1972--	12	1 959.8	79	92	100	(X)	(NA)	94	76	(X)		
		1970--	(NA)	1 757.9	(D)	(D)	(NA)	(NA)	(NA)	(NA)	1			
		1967--	10	1 608.7	(D)	(D)	100	(X)	(NA)	97	75	(X)		
		1966--	(NA)	1 496.2	(D)	100	(X)	(X)	(NA)	(NA)	2			
		1963--	7	1 090.0	(D)	100	(X)	(X)	(NA)	100	75	(X)		
		1958--	6	801.7	(D)	100	(X)	(X)	(NA)	100	76	(X)		
		1954--	3	604.1	100	(X)	(X)	(X)	(NA)	100	78	(X)		
		1947--	3	161.0	100	(X)	(X)	(X)	(NA)	(NA)	92	(X)		
3339	Primary nonferrous metals, n.e.c. ^{17 73}	1987--	96	654.5	41	67	91	99+	2 438	73	92	(X)		

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

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SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —										
				4 largest companies	8 largest companies	20 largest companies								
33	PRIMARY METAL INDUSTRIES—Con.													
3341	Secondary nonferrous metals ⁷³	1987--	365	4 431.4	24	36	52	74	251	99	95	(X)		
		1982--	396	4 851.9	25	35	56	76	231	97	(NA)	(X)		
		1977--	393	3 558.0	22	36	55	74	(NA)	97	(NA)	(X)		
		1972--	324	2 097.2	24	40	62	81	(NA)	98	(NA)	(X)		
		1970--	(NA)	1 802.6	26	41	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1967--	351	1 586.0	26	42	62	79	(NA)	89	(NA)	(X)		
		1966--	(NA)	1 709.2	29	44	(NA)	(NA)	(NA)	(NA)	(NA)	5		
		1963--	406	1 045.5	29	42	58	75	(NA)	94	(NA)	(X)		
		1958--	349	648.2	26	41	59	76	(NA)	93	(NA)	(X)		
3351	Copper rolling and drawing	1987--	94	5 134.0	31	53	84	98	476	94	98	(X)		
		1982--	102	3 270.0	35	55	84	98	503	90	95	(X)		
		1977--	102	4 013.8	40	63	85	98	(NA)	85	92	(X)		
		1972--	103	3 098.8	39	61	83	97	(NA)	89	93	(X)		
		1970--	(NA)	2 920.9	44	65	(NA)	(NA)	(NA)	(NA)	(NA)	1		
		1967--	86	2 391.1	41	65	85	98	(NA)	90	93	(X)		
		1966--	(NA)	2 846.3	43	67	(NA)	(NA)	(NA)	(NA)	(NA)	2		
		1963--	81	1 657.5	45	67	87	99	(NA)	90	91	(X)		
3353	Aluminum sheet, plate, and foil	1987--	39	9 497.2	74	91	99+	100	1 719	96	98	(X)		
		1982--	39	7 213.8	74	90	99+	100	1 772	95	99	(X)		
		1977--	31	5 970.7	72	88	99+	100	(NA)	92	99	(X)		
		1972--	24	2 685.2	69	84	99+	100	(NA)	85	99	(X)		
3354	Aluminum extruded products	1987--	131	4 292.8	33	52	74	91	486	87	97	(X)		
		1982--	134	2 673.1	34	51	73	91	412	89	91	(X)		
		1977--	133	2 050.0	38	54	78	93	(NA)	88	92	(X)		
		1972--	133	1 076.3	42	56	76	93	(NA)	85	88	(X)		
3355	Aluminum rolling and drawing, n.e.c. ⁷³	1987--	29	482.3	77	89	99	100	2 035	98	42	(X)		
		1982--	24	670.8	83	97	99+	100	2 564	77	(NA)	(X)		
		1977--	18	1 001.0	81	95	100	(X)	(NA)	91	(NA)	(X)		
		1972--	14	343.4	73	96	100	(X)	(NA)	86	(NA)	(X)		
3356	Nonferrous rolling and drawing, n.e.c. ⁷³	1987--	140	3 049.4	31	52	79	95	443	91	96	(X)		
		1982--	144	3 418.3	38	59	83	96	564	94	92	(X)		
		1977--	153	2 596.5	42	56	79	95	(NA)	94	93	(X)		
		1972--	136	1 244.6	43	59	82	95	(NA)	84	87	(X)		
		1970--	(NA)	1 047.8	47	66	(NA)	(NA)	(NA)	(NA)	(NA)	1		
		1967--	115	984.0	49	67	85	98	(NA)	89	84	(X)		
		1966--	(NA)	1 051.1	46	68	(NA)	(NA)	(NA)	(NA)	(NA)	3		
		1963--	108	641.0	46	66	86	97	(NA)	84	81	(X)		
		1958--	120	467.6	43	64	84	97	(NA)	77	82	(X)		
3357	Nonferrous wiredrawing and insulating ⁷³	1987--	341	10 826.5	25	37	55	77	264	97	98	(X)		
		1982--	271	8 216.9	30	42	65	84	375	97	88	(X)		
		1977--	245	6 595.4	40	54	74	90	(NA)	94	93	(X)		
		1972--	202	4 412.3	41	58	80	92	(NA)	94	89	(X)		
		1970--	(NA)	4 143.8	45	62	(NA)	(NA)	(NA)	(NA)	(NA)	1		
		1967--	206	3 591.4	39	55	76	92	(NA)	93	89	(X)		
		1966--	(NA)	3 711.1	39	56	(NA)	(NA)	(NA)	(NA)	(NA)	2		
		1963--	210	2 117.9	44	62	79	92	(NA)	91	86	(X)		
3363	Aluminum die-castings ¹¹	1987--	390	2 468.8	24	35	52	69	230	89	93	(X)		
3364	Nonferrous die-castings, except aluminum ¹¹	1987--	293	1 009.6	13	22	42	68	121	89	85	(X)		
3365	Aluminum foundries ¹¹	1987--	557	1 871.7	16	26	44	65	140	89	91	(X)		
3366	Copper foundries ¹¹	1987--	330	625.2	13	22	39	63	107	90	82	(X)		
3369	Nonferrous foundries, n.e.c. ¹⁷	1987--	53	339.9	(D)	85	96	99+	(D)	89	78	(X)		
3398	Metal heat treating	1987--	631	1 397.3	20	27	38	54	156	(D)	(D)	(X)		
		1982--	669	1 128.2	21	30	41	55	159	95	97	(X)		
		1977--	682	744.9	24	32	41	54	(NA)	(NA)	(NA)	(X)		
		1972--	885	467.4	16	24	35	48	(NA)	(NA)	(NA)	(X)		
3399	Primary metal products, n.e.c.	1987--	238	1 510.1	35	48	68	86	530	84	83	(X)		
		1982--	238	938.1	35	52	73	89	442	87	82	(X)		
		1977--	406	750.6	24	36	56	77	(NA)	94	70	(X)		
		1972--	129	348.3	26	40	62	85	(NA)	92	74	(X)		
34	FABRICATED METAL PRODUCTS													
3411	Metal cans	1987--	161	11 013.6	54	70	91	98	1 076	99	98	(X)		
		1982--	168	11 132.8	50	68	89	98	790	98	99	(X)		
		1977--	153	8 242.8	59	74	90	98	(NA)	96	98	(X)		
		1972--	134	4 510.8	66	79	92	99	(NA)	96	99	(X)		
		1970--	(NA)	3 912.7	72	83	(NA)	(NA)	(NA)	(NA)	(NA)	1		
		1967--	96	2 890.6	73	84	94	99	(NA)	90	98	(X)		
		1966--	(NA)	2 631.3	71	83	(NA)	(NA)	(NA)	(NA)	(NA)	2		
		1963--	99	2 075.0	74	85	95	99	(NA)	97	98	(X)		
		1958--	84	1 803.7	80	89	97	99	(NA)	95	96	(X)		
		751954--	109	1 366.8	80	88	96	(NA)	(NA)	98	99	(X)		
		1947--	102	678.9	78	86	94	(NA)	(NA)	97	99	(X)		
		1935--	(NA)	(NA)	80	85	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —										
				4 largest companies	8 largest companies	20 largest companies								
34	FABRICATED METAL PRODUCTS—Con.													
3412	Metal barrels, drums, and pails	1987--	118	1 100.0	30	46	73	95	392	92	93	(X)		
		1982--	115	1 038.7	33	50	74	94	436	93	93	(X)		
		1977--	120	937.1	34	47	71	94	(NA)	94	90	(X)		
		1972--	99	461.3	38	52	75	97	(NA)	97	86	(X)		
		1970--	(NA)	400.9	39	54	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1967--	91	370.7	36	54	77	97	(NA)	92	88	(X)		
		1966--	(NA)	361.7	39	55	(NA)	(NA)	(NA)	(NA)	(NA)	5		
		1963--	95	303.4	40	56	77	97	(NA)	92	86	(X)		
3421	Cutlery	1987--	131	1 054.0	49	63	82	96	1 089	96	88	(X)		
		1982--	123	938.0	49	59	78	97	1 035	96	90	(X)		
		1977--	119	711.4	53	65	83	97	(NA)	92	94	(X)		
		1972--	123	427.5	55	67	83	97	(NA)	91	94	(X)		
		1970--	(NA)	354.7	61	71	(NA)	(NA)	(NA)	(NA)	(NA)	3		
		1967--	138	378.5	69	77	87	97	(NA)	79	95	(X)		
		1966--	(NA)	373.6	66	76	(NA)	(NA)	(NA)	(NA)	(NA)	4		
		1963--	156	283.4	66	76	87	96	(NA)	89	97	(X)		
		1958--	181	176.8	53	65	78	92	(NA)	91	96	(X)		
		1954--	179	169.8	49	61	77	(NA)	(NA)	88	96	(X)		
		1947--	192	142.6	41	54	73	(NA)	(NA)	93	94	(X)		
3423	Hand and edge tools, n.e.c.	1987--	732	3 605.6	25	38	54	73	270	90	92	(X)		
		1982--	703	2 915.5	30	41	58	75	303	90	91	(X)		
		1977--	662	2 279.2	25	38	56	76	(NA)	91	90	(X)		
		1972--	582	1 233.1	23	39	58	77	(NA)	89	88	(X)		
		1970--	(NA)	970.6	25	37	(NA)	(NA)	(NA)	(NA)	(NA)	2		
		1967--	630	813.5	22	34	53	73	(NA)	93	85	(X)		
		1966--	(NA)	808.1	22	35	(NA)	(NA)	(NA)	(NA)	(NA)	6		
		1963--	681	556.5	21	34	52	72	(NA)	87	84	(X)		
		⁷⁶ 1958--	(NA)	402.4	19	30	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
3425	Saw blades and handsaws	1987--	128	674.9	45	61	79	95	664	89	86	(X)		
		1982--	119	487.3	47	65	85	96	722	83	86	(X)		
		1977--	105	363.3	53	69	86	97	(NA)	86	77	(X)		
		1972--	81	194.4	51	74	88	98	(NA)	85	77	(X)		
		1970--	(NA)	177.8	47	(S)	(NA)	(NA)	(NA)	(NA)	14			
		1967--	74	154.3	51	71	89	99	(NA)	80	82	(X)		
		1966--	(NA)	149.9	55	76	(NA)	(NA)	(NA)	(NA)	(NA)	5		
		1963--	70	102.8	48	66	90	99	(NA)	78	85	(X)		
		1958--	82	84.8	49	66	89	98	(NA)	82	90	(X)		
		1954--	95	83.7	56	70	89	(NA)	(NA)	71	90	(X)		
		1947--	81	70.4	66	75	90	(NA)	(NA)	78	87	(X)		
		1935--	(NA)	(NA)	63	76	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
3429	Hardware, n.e.c.	1987--	1 127	8 146.2	32	40	53	67	514	96	95	(X)		
		1982--	1 085	5 740.9	35	42	54	67	717	96	94	(X)		
		1977--	1 063	5 202.6	39	45	57	72	(NA)	94	94	(X)		
		1972--	963	3 239.4	35	43	57	71	(NA)	94	94	(X)		
		1970--	(NA)	2 485.8	30	38	(NA)	(NA)	(NA)	(NA)	(NA)	2		
		1967--	979	2 368.3	38	45	58	70	(NA)	91	95	(X)		
		1966--	(NA)	2 343.8	38	45	(NA)	(NA)	(NA)	(NA)	(NA)	2		
		1963--	1 025	1 785.1	39	45	57	70	(NA)	91	93	(X)		
3431	Metal sanitary ware	1987--	90	803.4	50	66	90	99	1 048	92	91	(X)		
		1982--	79	620.3	46	65	92	99	894	80	97	(X)		
		1977--	96	477.6	54	68	88	99	(NA)	82	92	(X)		
		1972--	86	370.2	49	67	87	99	(NA)	84	91	(X)		
		1970--	(NA)	369.2	46	65	(NA)	(NA)	(NA)	(NA)	1			
		1967--	83	251.2	51	69	90	99	(NA)	83	89	(X)		
		1966--	(NA)	262.3	47	67	(NA)	(NA)	(NA)	(NA)	2			
		1963--	75	234.9	49	68	91	99	(NA)	84	91	(X)		
3432	Plumbing fixture fittings and trim	1987--	161	2 355.4	46	57	76	93	798	95	96	(X)		
		1982--	162	1 300.5	34	49	72	91	459	97	93	(X)		
		1977--	191	1 166.4	33	49	69	90	(NA)	96	92	(X)		
		1972--	211	708.2	26	42	66	88	(NA)	90	90	(X)		
		1970--	(NA)	465.4	30	46	(NA)	(NA)	(NA)	(NA)	5			
		1967--	210	404.7	28	43	64	88	(NA)	93	86	(X)		
		1966--	(NA)	396.3	32	43	(NA)	(NA)	(NA)	(NA)	6			
		1963--	247	333.8	30	41	60	83	(NA)	90	83	(X)		
3433	Heating equipment, except electric	1987--	540	2 124.0	15	25	45	68	141	93	87	(X)		
		1982--	875	2 082.5	15	23	39	61	120	90	87	(X)		
		1977--	678	1 443.6	14	26	44	69	(NA)	87	84	(X)		
		⁷⁷ 1972--	409	1 058.4	22	31	48	70	(NA)	82	88	(X)		
		1970--	(NA)	1 256.7	19	30	(NA)	(NA)	(NA)	(NA)	2			
		1967--	496	1 069.0	22	33	50	71	(NA)	77	80	(X)		
		1966--	(NA)	1 167.3	16	26	(NA)	(NA)	(NA)	(NA)	4			
		1963--	611	1 019.8	16	27	45	66	(NA)	76	81	(X)		
3441	Fabricated structural metal	1987--	2 334	8 678.0	11	16	24	36	59	94	95	(X)		
		1982--	2 588	8 853.1	10	15	24	36	44	94	95	(X)		
		1977--	2 319	5 505.2	10	15	23	35	(NA)	92	92	(X)		
		1972--	2 010	3 920.1	10	14	23	36	(NA)	89	93	(X)		
		1970--	(NA)	3 139.0	13	18	(NA)	(NA)	(NA)	(NA)	2			
		1967--	1 865	2 967.8	13	18	26	38	(NA)	89	91	(X)		
		1966--	(NA)	2 601.7	14	20	(NA)	(NA)	(NA)	(NA)	3			
		1963--	1 636	1 916.0	15	20	28	41	(NA)	86	89	(X)		
3442	Metal doors, sash, and trim	1987--	1 428	6 591.0	13	19	33	49	78	92	94	(X)		
		1982--	1 564	4 685.3	11	17	30	47	66	91	94	(X)		
		1977--	1 498	3 135.6	8	15	30	48	(NA)	93	91	(X)		
		1972--	1 391	2 077.6	12	19	33	50	(NA)	90	91	(X)		
		1970--	(NA)	1 588.7	11	17	(NA)	(NA)	(NA)	(NA)	5			
		1967--	1 540	1 413.6	10	16	26	42	(NA)	91	94	(X)		
		1966--	(NA)	1 397.2	10	16	(NA)	(NA)	(NA)	(NA)	3			
		1963--	1 712	1 253.8	8	13	23	38	(NA)	88	94	(X)		

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

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SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
34	FABRICATED METAL PRODUCTS—Con.														
3443	Fabricated plate work (boiler shops) -----	1987--	1 584	6 810.2	13	20	30	44	81	92	93	(X)			
		1982--	1 743	8 225.3	19	25	35	48	151	93	91	(X)			
		1977--	1 683	7 432.4	26	32	43	57	(NA)	89	92	(X)			
		1972--	1 349	3 339.0	29	35	46	58	(NA)	92	87	(X)			
		1970--	(NA)	2 980.2	30	37	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967--	1 346	2 688.5	30	36	48	59	(NA)	91	85	(X)			
		1966--	(NA)	2 323.3	28	35	(NA)	(NA)	(NA)	(NA)	92	(X)			
		1963--	1 301	1 623.0	25	34	48	59	(NA)	89	93	(X)			
3444	Sheet metal work -----	1987--	4 078	9 698.9	10	14	21	32	43	91	91	(X)			
		1982--	3 579	6 853.9	7	11	21	33	29	92	92	(X)			
		1977--	3 222	4 863.5	10	17	28	40	(NA)	92	90	(X)			
		1972--	2 959	2 680.0	9	15	24	36	(NA)	90	84	(X)			
		1970--	(NA)	2 035.8	9	14	(NA)	(NA)	(NA)	(NA)	(NA)	4			
		1967--	2 942	1 812.4	10	16	26	39	(NA)	88	83	(X)			
		1966--	(NA)	1 834.8	11	17	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1963--	3 139	1 303.7	11	16	24	35	(NA)	88	78	(X)			
		1958--	3 066	973.8	15	20	27	39	(NA)	88	83	(X)			
		1954--	2 363	738.5	19	28	36	(NA)	(NA)	81	80	(X)			
		1947--	1 665	420.5	21	29	38	(NA)	(NA)	83	82	(X)			
		1935--	(NA)	(NA)	17	26	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
3446	Architectural metal work -----	1987--	1 300	2 268.8	13	20	32	48	78	88	87	(X)			
		1982--	1 380	1 367.5	12	21	35	51	83	91	84	(X)			
		1977--	1 477	947.1	17	26	41	57	(NA)	90	86	(X)			
		1972--	1 431	573.7	14	21	33	48	(NA)	88	81	(X)			
		1970--	(NA)	489.0	16	25	(NA)	(NA)	(NA)	(NA)	(NA)	5			
		1967--	1 360	484.9	28	36	48	62	(NA)	83	77	(X)			
		1966--	(NA)	342.0	15	21	(NA)	(NA)	(NA)	(NA)	(NA)	5			
		1963--	1 326	269.3	13	19	32	50	(NA)	86	71	(X)			
3448	Prefabricated metal buildings -----	1987--	486	3 137.8	27	40	58	74	286	92	95	(X)			
		1982--	518	2 324.6	21	31	50	73	195	95	95	(X)			
		1977--	414	1 779.2	22	34	58	79	(NA)	94	95	(X)			
		1972--	145	608.9	35	52	76	93	(NA)	89	90	(X)			
3449	Miscellaneous metal work -----	1987--	496	3 231.4	27	36	52	69	280	88	86	(X)			
		1982--	401	2 594.6	25	38	55	72	250	88	84	(X)			
		1977--	308	1 330.8	28	45	63	82	(NA)	91	78	(X)			
		1972--	332	980.4	27	41	60	79	(NA)	91	76	(X)			
3451	Screw machine products -----	1987--	1 610	2 806.2	5	8	17	29	21	95	93	(X)			
		1982--	1 744	2 173.1	8	11	17	28	30	96	94	(X)			
		1977--	1 727	1 771.7	7	11	18	30	(NA)	96	92	(X)			
		1972--	1 780	1 063.8	6	9	16	26	(NA)	96	90	(X)			
		1970--	(NA)	1 048.4	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	7			
		1967--	1 847	1 021.5	6	9	17	28	(NA)	96	90	(X)			
		1966--	(NA)	949.0	4	7	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1963--	1 861	589.0	5	8	15	26	(NA)	97	90	(X)			
		1958--	1 784	415.3	9	12	19	30	(NA)	95	86	(X)			
		1954--	1 791	401.5	11	15	23	(NA)	(NA)	93	82	(X)			
		1947--	1 205	222.0	17	20	29	(NA)	(NA)	94	86	(X)			
3452	Bolts, nuts, rivets, end washers -----	1987--	834	5 084.0	16	24	40	60	120	95	96	(X)			
		1982--	780	3 661.3	13	23	38	58	102	93	95	(X)			
		1977--	723	3 319.5	13	23	40	62	(NA)	94	94	(X)			
		1972--	581	2 027.6	16	25	42	66	(NA)	93	91	(X)			
		1970--	(NA)	1 646.0	17	27	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1967--	577	1 643.9	18	27	47	68	(NA)	94	90	(X)			
		1966--	(NA)	1 661.8	18	28	(NA)	(NA)	(NA)	(NA)	(NA)	4			
		1963--	504	1 218.2	18	27	47	68	(NA)	92	90	(X)			
		1958--	470	844.5	17	27	45	67	(NA)	88	89	(X)			
		1954--	421	699.5	15	25	45	(NA)	(NA)	91	89	(X)			
		1947--	339	463.8	20	31	52	(NA)	(NA)	92	86	(X)			
3462	Iron and steel forgings ⁷³ -----	1987--	379	3 003.6	22	32	47	70	193	91	92	(X)			
		1982--	336	2 943.5	24	31	47	70	227	89	81	(X)			
		1977--	312	2 795.7	25	34	51	74	(NA)	92	84	(X)			
		1972--	252	1 416.1	29	40	57	79	(NA)	92	68	(X)			
		1970--	(NA)	1 184.5	31	40	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967--	248	1 261.6	30	40	57	77	(NA)	90	72	(X)			
		1966--	(NA)	1 273.1	31	42	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963--	248	868.9	30	39	56	77	(NA)	89	69	(X)			
		287	595.4	27	38	59	(NA)	(NA)	88	73	(X)				
		1954--	247	370.1	24	35	54	(NA)	(NA)	95	77	(X)			
		1947--	(NA)	(NA)	21	32	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
3463	Nonferrous forgings -----	1987--	72	1 003.7	60	73	91	99+	1 503	86	76	(X)			
		1982--	59	1 093.8	58	75	91	99+	1 291	84	73	(X)			
		1977--	43	456.7	77	85	97	100	(NA)	87	67	(X)			
		1972--	40	222.5	71	81	96	100	(NA)	84	63	(X)			
		1970--	(NA)	326.4	67	80	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1967--	37	333.1	77	85	97	100	(NA)	67	54	(X)			
		1966--	(NA)	311.4	78	85	(NA)	(NA)	(NA)	(NA)	(NA)	5			
		1963--	32	165.1	84	91	99	100	(NA)	69	55	(X)			
3465	Automotive stampings -----	1987--	596	15 251.6	59	64	71	80	1 183	95	93	(X)			
		1982--	566	8 777.4	61	66	74	82	1 302	92	88	(X)			
		1977--	495	9 739.2	65	70	77	84	(NA)	92	91	(X)			
		1972--	388	5 286.0	69	72	79	87	(NA)	92	92	(X)			
3466	Crowns and closures -----	1987--	46	819.8	54	78	97	100	1 052	96	95	(X)			
		1982--	48	804.8	57	83	98	100	1 065	92	92	(X)			
		1977--	42	536.9	53	73	95	100	(NA)	95	86	(X)			
		1972--	42	343.5	49	72	92	100	(NA)	88	83	(X)			

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			Total (million dollars)	Percent accounted for by ⁴ —									
				4 largest companies	8 largest companies	20 largest companies	50 largest companies						
34 FABRICATED METAL PRODUCTS—Con.													
3469	Metal stampings, n.e.c.	1987--	2 702	8 331.1	9	14	22	33	35	90	91	(X)	
		1982--	2 718	6 437.7	10	16	24	35	48	88	88	(X)	
		1977--	2 544	4 735.7	9	16	26	38	(NA)	88	88	(X)	
		1972--	2 283	2 688.8	9	14	23	36	(NA)	86	85	(X)	
3471	Plating and polishing	1987--	3 353	3 866.9	7	10	16	25	30	(D)	(D)	(X)	
		1982--	3 367	2 731.4	7	11	18	27	23	(NA)	(NA)	(X)	
		1977--	3 344	1 848.5	8	12	18	27	(NA)	(NA)	(NA)	(X)	
		1972--	3 179	1 034.5	5	8	15	24	(NA)	(NA)	(NA)	(X)	
		1970--	(NA)	966.6	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	5	
		1967--	3 170	791.1	5	9	15	24	(NA)	(NA)	(NA)	(X)	
		1966--	(NA)	719.8	5	8	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
		1963--	2 968	517.6	5	8	14	22	(NA)	(NA)	(NA)	(X)	
		1958--	2 588	353.5	5	7	12	21	(NA)	(NA)	(NA)	(X)	
		1954--	2 423	304.4	10	13	20	(NA)	(NA)	(NA)	(NA)	(X)	
		1947--	1 789	180.7	15	20	28	(NA)	(NA)	(NA)	(NA)	(X)	
		1935--	(NA)	(NA)	12	17	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
3479	Metal coating and allied services	1987--	1 702	3 922.6	17	26	41	54	152	(D)	(D)	(X)	
		1982--	1 524	2 393.4	15	24	40	56	118	(NA)	(NA)	(X)	
		1977--	1 556	1 607.7	22	32	46	59	(NA)	(NA)	(NA)	(X)	
		1972--	1 427	701.8	15	23	36	49	(NA)	(NA)	(NA)	6	
		1970--	(NA)	532.3	17	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
		1967--	1 393	471.3	18	26	37	50	(NA)	(NA)	(NA)	(X)	
		1966--	(NA)	469.1	15	24	(NA)	(NA)	(NA)	(NA)	(NA)	7	
		1963--	1 227	322.1	17	26	39	54	(NA)	(NA)	(NA)	(X)	
		1958--	986	194.4	21	28	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
3482	Small arms ammunition	1987--	75	889.2	88	96	99	99+	(D)	96	(D)	(X)	
		1982--	59	799.8	87	97	99	99+	2 305	96	85	(X)	
		1977--	59	436.2	86	97	99	99+	(NA)	95	90	(X)	
		1972--	57	366.7	89	95	99	99+	(NA)	97	97	(X)	
3483	Ammunition, except for small arms, n.e.c.	1987--	66	3 983.2	47	66	91	99+	988	82	88	(X)	
		1982--	63	1 757.1	50	69	90	99+	1 003	82	76	(X)	
		1977--	68	716.5	52	71	93	99	(NA)	81	83	(X)	
		1972--	78	1 173.4	44	62	85	99	(NA)	83	84	(X)	
3484	Small arms	1987--	146	1 093.1	54	73	93	98	940	99	94	(X)	
		1982--	138	1 032.1	51	74	91	99	893	90	99+	(X)	
		1977--	105	754.9	58	78	95	99	(NA)	94	99	(X)	
		1972--	75	393.5	53	74	96	99+	(NA)	91	98	(X)	
3489	Ordnance and accessories, n.e.c.	1987--	59	1 678.1	77	90	98	99+	1 858	91	67	(X)	
		1982--	65	1 403.8	59	82	96	99+	1 061	86	64	(X)	
		1977--	89	733.8	48	72	91	99+	(NA)	81	68	(X)	
		1972--	75	469.5	54	76	93	99+	(NA)	76	67	(X)	
3491	Industrial valves ¹¹	1987--	310	4 590.6	20	30	50	74	198	94	88	(X)	
3492	Fluid power valves and hose fittings ¹¹	1987--	332	2 451.5	38	47	62	81	511	89	75	(X)	
3493	Steel springs, except wire	1987--	144	458.5	38	51	72	90	518	87	49	(X)	
		1982--	123	413.5	43	59	81	94	614	81	59	(X)	
		1977--	116	500.5	44	59	84	97	(NA)	84	72	(X)	
		1972--	99	331.4	45	62	86	98	(NA)	81	73	(X)	
		1970--	(NA)	265.5	43	62	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1967--	105	192.4	36	53	82	97	(NA)	88	63	(X)	
		1966--	(NA)	162.2	41	62	(NA)	(NA)	(NA)	(NA)	(NA)	5	
		1963--	91	157.7	44	63	85	98	(NA)	91	67	(X)	
3494	Valves and pipe fittings, n.e.c. ¹⁷	1987--	372	2 377.3	20	31	50	69	180	88	85	(X)	
3495	Wire springs	1987--	304	1 580.4	36	48	65	81	518	91	93	(X)	
		1982--	322	1 104.3	29	40	58	76	346	92	93	(X)	
		1977--	254	957.7	29	41	58	78	(NA)	92	92	(X)	
		1972--	206	611.9	26	38	60	80	(NA)	88	93	(X)	
3496	Miscellaneous fabricated wire products ^{28 73}	1987--	1 066	2 720.8	11	17	28	42	56	90	90	(X)	
		1982--	1 109	2 358.4	9	15	26	43	51	93	(NA)	(X)	
		1977--	1 048	1 435.0	10	16	31	48	(NA)	91	(NA)	(X)	
		1972--	1 157	959.7	11	17	29	47	(NA)	93	(NA)	(X)	
3497	Metal foil and leaf	1987--	97	2 286.6	57	70	87	98	1 190	82	86	(X)	
		1982--	80	1 846.3	56	66	83	98	1 455	81	82	(X)	
		1977--	63	895.1	49	66	87	99	(NA)	80	63	(X)	
		1972--	54	282.0	45	61	86	99+	(NA)	79	42	(X)	
		1970--	(NA)	283.7	45	65	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1967--	59	265.5	43	65	87	99+	(NA)	85	56	(X)	
		1966--	(NA)	165.9	43	66	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1963--	56	151.6	54	73	90	99+	(NA)	86	41	(X)	
3498	Fabricated pipe and fittings	1987--	679	1 725.5	9	15	28	47	59	97	91	(X)	
		1982--	704	3 105.8	14	24	43	65	123	97	94	(X)	
		1977--	513	1 872.7	18	29	49	70	(NA)	94	93	(X)	
		1972--	374	704.4	21	32	54	73	(NA)	94	90	(X)	
		1970--	(NA)	547.2	17	28	(NA)	(NA)	(NA)	(NA)	(NA)	5	
		1967--	356	508.1	17	27	48	68	(NA)	95	90	(X)	
		1966--	(NA)	463.0	13	22	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1963--	328	305.6	17	28	48	71	(NA)	92	91	(X)	
		1958--	269	296.6	24	39	55	75	(NA)	90	92	(X)	
		1954--	237	225.9	27	42	62	(NA)	(NA)	92	88	(X)	
		1947--	206	116.0	22	36	59	(NA)	(NA)	82	83	(X)	
3499	Fabricated metal products, n.e.c.	1987--	3 720	6 148.6	13	17	25	36	60	93	90	(X)	
		1982--	2 910	4 406.0	13	18	28	39	73	92	87	(X)	
		1977--	3 142	3 429.2	13	18	29	42	(NA)	89	83	(X)	
		1972--	2 255	1 938.6	16	22	33	47	(NA)	89	74	(X)	

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ⁷ (percent)	Standard error of estimate ⁸ (percent)			
			Total (million dollars)	Percent accounted for by ⁴ —									
				4 largest companies	8 largest companies	20 largest companies	50 largest companies						
35	INDUSTRIAL MACHINERY AND EQUIPMENT												
3511	Turbines and turbine generator sets	1987--	68	3 447.8	80	95	99	99+	2 162	83	83	(X)	
		1982--	71	3 676.3	84	92	98	99+	2 602	94	80	(X)	
		1977--	68	2 729.7	86	97	99	99+	(NA)	92	82	(X)	
		1972--	59	2 189.0	90	96	99	99+	(NA)	92	90	(X)	
		1970--	(NA)	1 791.0	77	88	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	20	1 043.2	76	82	100	(X)	(NA)	83	78	(X)	
		1966--	(NA)	867.2	87	98	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	17	616.4	93	98	100	(X)	(NA)	85	82	(X)	
3519	Internal combustion engines, n.e.c.	1987--	224	11 122.6	52	74	90	97	874	94	91	(X)	
		1982--	202	9 363.4	48	66	87	97	731	89	87	(X)	
		1977--	187	7 696.5	49	70	88	98	(NA)	91	88	(X)	
		1972--	145	3 326.1	50	70	92	99	(NA)	91	86	(X)	
		1970--	(NA)	2 673.7	51	74	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	129	2 093.2	47	64	89	99	(NA)	89	83	(X)	
		1966--	(NA)	2 052.5	52	69	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	120	1 473.6	49	65	89	99	(NA)	86	86	(X)	
3523	Farm machinery and equipment	1987--	1 576	6 879.9	45	52	60	69	802	90	91	(X)	
		1982--	1 787	10 743.0	53	62	69	77	1 468	94	95	(X)	
		1977--	1 868	10 281.7	46	61	70	78	(NA)	92	95	(X)	
		1972--	1 465	4 529.7	47	61	69	78	(NA)	90	94	(X)	
3524	Lawn and garden equipment	1987--	149	4 594.4	52	71	92	98	883	89	94	(X)	
		1982--	151	2 365.2	40	57	86	97	567	91	88	(X)	
		1977--	137	1 575.3	30	51	82	96	(NA)	92	82	(X)	
		1972--	100	1 059.1	34	53	78	95	(NA)	90	82	(X)	
3531	Construction machinery ²⁸	1987--	872	12 767.7	48	56	66	79	903	94	96	(X)	
		1982--	817	11 657.9	42	52	69	81	838	91	94	(X)	
		1977--	807	12 628.7	47	59	75	86	(NA)	91	95	(X)	
		1972--	644	6 091.0	43	54	72	86	(NA)	90	93	(X)	
		1970--	(NA)	4 888.1	42	53	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	578	4 138.0	41	53	72	85	(NA)	88	92	(X)	
		1966--	(NA)	3 767.8	45	57	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1963--	561	2 696.0	42	53	70	84	(NA)	91	89	(X)	
3532	Mining machinery	1987--	293	1 518.1	22	37	63	85	270	86	86	(X)	
		1982--	316	2 109.3	36	49	69	87	575	90	89	(X)	
		1977--	293	1 996.7	37	50	70	88	(NA)	88	86	(X)	
		1972--	220	771.4	41	55	72	89	(NA)	87	81	(X)	
		1970--	(NA)	688.8	36	50	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1967--	197	622.2	37	52	73	89	(NA)	78	82	(X)	
		1966--	(NA)	630.4	34	52	(NA)	(NA)	(NA)	(NA)	(NA)	4	
		1963--	198	417.6	35	53	74	91	(NA)	75	82	(X)	
3533	Oil and gas field machinery	1987--	563	2 728.3	34	44	60	78	426	93	96	(X)	
		1982--	848	11 195.1	27	44	64	81	315	92	96	(X)	
		1977--	386	3 912.4	30	45	66	87	(NA)	88	95	(X)	
		1972--	257	1 207.1	28	42	64	90	(NA)	82	92	(X)	
		1970--	(NA)	1 063.7	23	37	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1967--	309	799.8	21	36	60	82	(NA)	85	92	(X)	
		1966--	(NA)	846.0	24	39	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	373	666.5	25	37	57	80	(NA)	90	91	(X)	
3534	Elevators and moving stairways	1987--	158	1 084.4	52	64	78	91	824	98	94	(X)	
		1982--	148	1 120.7	47	65	82	93	706	96	95	(X)	
		1977--	134	489.7	52	68	82	94	(NA)	96	93	(X)	
		1972--	135	483.6	55	68	82	94	(NA)	97	96	(X)	
		1970--	(NA)	467.8	61	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		781967--	130	319.7	55	67	81	94	(NA)	94	95	(X)	
		1966--	(NA)	352.6	63	74	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	126	318.6	62	73	85	95	(NA)	97	95	(X)	
		1958--	135	189.4	62	71	82	93	(NA)	97	80	(X)	
		1954--	127	161.0	66	74	83	(NA)	(NA)	87	89	(X)	
		1947--	108	101.8	63	73	84	(NA)	(NA)	92	91	(X)	
3535	Conveyors and conveying equipment	1987--	703	3 408.2	17	24	37	55	135	92	92	(X)	
		1982--	646	2 946.7	16	26	41	58	124	89	91	(X)	
		1977--	572	1 897.9	19	30	46	64	(NA)	90	87	(X)	
		1972--	457	969.8	22	32	50	69	(NA)	90	88	(X)	
		1970--	(NA)	878.2	24	34	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1967--	416	736.0	29	39	56	74	(NA)	85	83	(X)	
		1966--	(NA)	725.4	29	39	(NA)	(NA)	(NA)	(NA)	(NA)	6	
		1963--	428	494.6	28	39	60	78	(NA)	82	83	(X)	
3536	Hoists, cranes, and monorails ¹⁷	1987--	165	675.4	19	36	61	82	243	93	78	(X)	
3537	Industrial trucks and tractors ¹⁷	1987--	448	2 440.2	35	44	59	76	366	95	94	(X)	
3541	Machine tools, metal cutting types	1987--	381	3 189.5	31	41	60	77	350	83	93	(X)	
		1982--	865	4 411.5	30	44	65	80	351	91	93	(X)	
		1977--	874	2 819.1	22	35	56	77	(NA)	87	92	(X)	
		1972--	857	1 418.1	22	33	55	75	(NA)	86	90	(X)	
		1970--	(NA)	1 829.2	24	37	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	865	2 127.2	21	33	54	77	(NA)	86	90	(X)	
		1966--	(NA)	1 826.1	22	34	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	784	1 060.8	20	32	52	74	(NA)	81	88	(X)	
		1958--	608	684.8	21	32	52	74	(NA)	82	90	(X)	
		1954--	627	1 146.9	19	29	52	(NA)	(NA)	84	93	(X)	
		1947--	312	493.9	20	30	50	(NA)	(NA)	77	86	(X)	

See footnotes at end of table.

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SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁴	Primary product specialization ratio ⁵ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Percent accounted for by ⁴ —												
			Total (million dollars)	4 largest companies	8 largest companies	20 largest companies	50 largest companies								
35	INDUSTRIAL MACHINERY AND EQUIPMENT—Con.														
3542	Machine tools, metal forming types	1987--	196	1 396.3	18	32	56	81	202	91	87				
		1982--	435	1 428.7	21	34	55	76	209	89	87				
		1977--	411	1 130.6	18	32	55	77	(NA)	90	87				
		1972--	375	693.6	18	33	54	75	(NA)	89	87				
		1970--	(NA)	760.2	23	39	(NA)	(NA)	(NA)	(NA)	2				
		1967--	344	714.0	23	38	63	82	(NA)	85	84				
		1966--	(NA)	727.7	24	38	(NA)	(NA)	(NA)	(NA)	4				
		1963--	362	441.4	22	39	61	80	(NA)	86	79				
3543	Industrial patterns ⁴⁷	1987--	812	499.4	12	19	31	43	68	92	80				
		1982--	994	452.3	7	12	20	33	30	97	76				
		1977--	1 001	320.6	9	14	23	36	(NA)	97	75				
		1972--	1 017	198.0	7	13	23	36	(NA)	95	78				
		1970--	(NA)	210.5	(S)	(S)	(NA)	(NA)	(NA)	(NA)	8				
		1967--	1 156	201.8	9	14	24	39	(NA)	96	80				
		1966--	(NA)	233.0	(S)	(S)	(NA)	(NA)	(NA)	(NA)	9				
		1963--	1 206	140.7	9	14	24	37	(NA)	96	80				
3544	Special dies, tools, jigs, and fixtures	1987--	7 207	7 550.1	5	8	12	19	14	94	82				
		1982--	7 132	5 374.9	6	9	13	20	14	94	79				
		1977--	7 033	3 901.3	8	10	14	21	(NA)	94	79				
		1972--	6 513	2 426.7	7	10	14	21	(NA)	94	78				
		1970--	(NA)	2 478.9	7	9	(NA)	(NA)	(NA)	(NA)	3				
		1967--	6 532	2 202.3	4	7	12	19	(NA)	94	74				
		1966--	(NA)	2 217.9	5	8	(NA)	(NA)	(NA)	(NA)	3				
		1963--	5 850	2 388.8	6	9	14	21	(NA)	93	72				
3545	Machine tool accessories	1987--	1 736	3 601.0	16	24	37	51	111	94	93				
		1982--	1 444	3 165.3	18	26	41	57	132	92	89				
		1977--	1 271	2 384.5	20	31	45	61	(NA)	89	88				
		1972--	1 113	1 249.0	19	30	47	63	(NA)	86	88				
		1970--	(NA)	1 206.3	21	32	(NA)	(NA)	(NA)	(NA)	2				
		1967--	1 073	1 309.9	20	32	47	64	(NA)	85	85				
		1966--	(NA)	1 230.3	20	32	(NA)	(NA)	(NA)	(NA)	4				
		1963--	983	787.3	17	29	46	63	(NA)	83	84				
3546	Power-driven handtools	1987--	183	2 161.8	45	66	89	96	866	83	85				
		1982--	180	1 795.3	55	73	90	97	1 105	88	91				
		79 1977--	99	1 623.2	50	70	95	99	(NA)	91	90				
		1972--	71	730.5	48	70	93	99	(NA)	82	92				
3547	Rolling mill machinery	1987--	83	467.8	52	72	89	98	865	92	94				
		1982--	58	502.9	58	78	94	99+	1 155	79	79				
		1977--	58	507.4	62	77	93	99	(NA)	78	86				
		1972--	40	327.8	69	88	96	100	(NA)	74	86				
3548	Welding apparatus ¹¹	1987--	203	2 104.6	37	52	69	86	532	90	92				
3549	Metalworking machinery, n.e.c. ¹⁷	1987--	292	1 033.0	16	26	45	66	140	89	87				
3552	Textile machinery	1987--	475	1 240.7	20	30	50	69	182	96	96				
		1982--	511	1 059.0	22	32	48	68	200	96	95				
		1977--	600	951.0	22	35	51	69	(NA)	93	94				
		1972--	535	822.8	31	46	61	75	(NA)	94	96				
		1970--	(NA)	793.0	33	49	(NA)	(NA)	(NA)	(NA)	2				
		1967--	524	711.7	31	48	65	78	(NA)	94	95				
		1966--	(NA)	820.3	33	51	(NA)	(NA)	(NA)	(NA)	4				
		1963--	529	542.7	35	52	67	80	(NA)	93	94				
		1958--	507	363.2	34	49	64	79	(NA)	87	94				
		1954--	517	336.8	32	46	63	(NA)	(NA)	89	93				
		1947--	470	403.4	30	44	59	(NA)	(NA)	95	93				
3553	Woodworking machinery ¹⁷	1987--	280	884.3	32	43	60	79	385	91	91				
3554	Paper industries machinery	1987--	256	1 867.1	30	41	63	83	349	90	93				
		1982--	231	1 387.4	39	49	65	84	630	89	93				
		1977--	193	826.9	40	52	69	88	(NA)	84	90				
		1972--	203	447.8	32	46	65	85	(NA)	85	86				
		1970--	(NA)	535.2	(S)	(S)	(NA)	(NA)	(NA)	(NA)	3				
		1967--	206	551.4	43	54	72	90	(NA)	92	86				
		1966--	(NA)	502.8	37	51	(NA)	(NA)	(NA)	(NA)	2				
		1963--	204	403.9	41	53	74	92	(NA)	88	90				
		1958--	192	292.4	47	58	78	92	(NA)	93	90				
		1954--	163	196.6	34	46	69	(NA)	(NA)	85	86				
		1947--	144	151.1	28	42	66	(NA)	(NA)	85	89				
3555	Printing trades machinery ¹⁷	1987--	408	2 857.8	44	52	66	80	729	96	94				
3556	Food products machinery ¹¹	1987--	483	1 971.4	28	36	49	66	264	86	91				
3559	Special industry machinery, n.e.c. ¹⁷	1987--	2 438	8 274.7	9	14	24	40	45	94	91				
3561	Pumps and pumping equipment ¹⁷	1987--	333	3 998.3	19	31	51	77	192	88	91				
3562	Ball and roller bearings	1987--	113	3 723.7	58	68	88	98	966	98	98				
		1982--	109	3 149.5	47	65	85	98	724	96	99				
		1977--	102	2 567.3	56	71	88	99	(NA)	96	98				
		1972--	99	1 530.5	53	73	89	99	(NA)	94	99				
		1970--	(NA)	1 314.6	54	74	(NA)	(NA)	(NA)	(NA)	(NA)				
		1967--	85	1 328.5	54	73	90	99	(NA)	97	97				
		1966--	(NA)	1 398.9	56	74	(NA)	(NA)	(NA)	(NA)	(NA)				
		1963--	93	998.8	57	76	91	99	(NA)	97	98				
		1958--	85	638.9	57	77	92	99	(NA)	97	98				
		1954--	83	537.2	60	79	92	(NA)	(NA)	98	98				
		1947--	78	365.6	62	79	93	(NA)	(NA)	94	96				

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

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SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)
			Total (million dollars)	Percent accounted for by ⁴ —	4 largest companies	8 largest companies	20 largest companies	50 largest companies		
35	INDUSTRIAL MACHINERY AND EQUIPMENT—Con.									
3563	Air and gas compressors ^{2a}	1987-- 223 3 050.9 1982-- 239 3 270.0 1977-- 148 2 075.6 1972-- 66 858.1	36 50 74 91 41 57 79 92 45 64 86 96 47 72 94 99							
3564	Blowers and fans	1987-- 445 2 272.4 1982-- 450 2 173.5 1977-- 432 1 430.8 1972-- 360 805.2 1970-- (NA) 670.6 1967-- 271 525.2 1966-- (NA) 444.3 1963-- 225 315.3 1958-- 197 250.5 1954-- 208 261.8 1947-- 187 140.7	14 23 42 67 14 24 43 69 17 28 49 75 26 37 59 80 24 37 (NA) (NA) 23 37 62 84 25 39 (NA) (NA) 27 43 67 88 28 43 66 86 31 49 68 (NA) 39 54 72 (NA)							
3565	Packaging machinery ¹⁷	1987-- 415 2 189.9	19 29 48 68							
3566	Speed changers, drives, and gears	1987-- 251 1 569.0 1982-- 282 1 631.6 1977-- 307 1 222.3 1972-- 330 632.7	26 40 62 80 27 40 62 80 29 42 64 81 27 41 62 80							
3567	Industrial furnaces and ovens	1987-- 342 1 434.8 1982-- 321 1 102.2 1977-- 311 746.3 1972-- 253 443.2 1970-- (NA) 454.9 1967-- 246 495.7 1966-- (NA) 401.0 1963-- 229 279.1	14 25 45 66 24 36 54 74 26 39 58 76 30 43 66 83 34 48 (NA) (NA) 36 50 68 85 35 48 (NA) (NA) 28 42 62 84							
3568	Power transmission equipment, n.e.c.	1987-- 262 2 041.1 1982-- 242 1 926.8 1977-- 184 1 626.0 1972-- 125 876.4	29 44 63 82 25 38 62 82 26 44 69 89 36 58 75 92							
3569	General industrial machinery, n.e.c. ¹⁷	1987-- 1 159 3 840.4	11 17 30 47							
3571	Electronic computers ¹¹	1987-- 914 33 626.5	43 58 80 90							
3572	Computer storage devices ¹¹	1987-- 98 6 394.8	52 70 90 99+							
3575	Computer terminals ¹¹	1987-- 120 1 799.0	40 57 77 95							
3577	Computer peripheral equipment, n.e.c. ¹¹	1987-- 520 14 022.2	62 69 80 89							
3578	Calculating and accounting equipment ⁴⁷	1987-- 92 1 486.8 1982-- 65 1 487.3 1977-- 58 850.0 1972-- 74 637.2 1970-- (NA) 887.9 1967-- 132 707.8	50 74 88 98 54 78 96 99+ 59 83 98 99+ 73 89 98 99+ 83 91 (NA) (NA) 83 90 95 99							
3579	Office machines, n.e.c. ¹⁷	1987-- 191 3 297.2	47 62 82 94							
3581	Automatic vending machines	1987-- 97 714.6 1982-- 88 479.4 1977-- 108 410.1 1972-- 116 324.4 1970-- (NA) 247.3 1967-- 143 248.0 1966-- (NA) 279.5 1963-- 148 238.0	52 76 93 98 51 72 93 99 46 67 93 99 51 68 89 97 57 73 (NA) (NA) 60 74 87 96 61 77 (NA) (NA) 55 72 84 95							
3582	Commercial laundry equipment	1987-- 80 455.8 1982-- 86 321.0 1977-- 90 220.3 801972-- 100 157.0 1970-- (NA) 165.3 1967-- 109 183.1 1966-- (NA) 190.5 1963-- 107 136.8 1958-- 113 111.7 1954-- 101 88.1 1947-- 119 4.4	36 58 85 98 36 53 79 97 46 63 84 98 53 65 82 97 57 (S) (NA) (NA) 51 63 83 97 51 (S) (NA) (NA) 47 57 77 96 51 66 83 96 51 67 81 96 59 69 81 94							
3585	Refrigeration and heating equipment ^{2a}	1987-- 746 8 051.1 811982-- 730 12 390.3 1977-- 731 9 638.1 771972-- 655 7 083.5	31 45 67 82 34 46 65 80 41 51 67 82 40 53 70 85							
3586	Measuring and dispensing pumps	1987-- 70 1 068.7 1982-- 58 676.2 1977-- 57 375.7 1972-- 54 232.3 1970-- (NA) 201.8 1967-- 46 174.7 1966-- (NA) 206.9 1963-- 42 159.5 1958-- 32 110.5 1954-- (NA) 104.4 1947-- 51 125.1	57 75 93 99+ 54 72 93 99+ 50 73 96 99+ 51 75 94 100 58 83 (NA) (NA) 56 83 97 100 48 77 (NA) (NA) 46 80 97 100 52 85 99 100 58 (NA) (NA) (NA) 49 76 97 (D) 51 125.1							

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			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
35	INDUSTRIAL MACHINERY AND EQUIPMENT—Con.														
3589	Service industry machinery, n.e.c. -----	1987-- 897 1982-- 791 1977-- 959 1972-- 669 1970-- (NA) 1967-- 554 1966-- (NA) 1963-- 496	3 960.4 2 583.0 1 771.8 913.8 708.7 598.1 570.8 378.3	12 14 11 12 14 14 15 14	20 23 21 22 26 24 26 26	37 40 39 39 (NA) (NA) (NA) (NA)	57 58 59 62 (NA) (NA) (NA) (NA)	93 107 (NA) (NA) (NA) (NA) (NA) (NA)	95 93 91 90 90 89 89 86	90 88 90 87 2 88 84 84	(X) (X) (X) (X) (X) (X) (X) (X)				
3592	Carburetors, pistons, rings, and valves -----	1987-- 132 1982-- 149 1977-- 131 1972-- 98	2 287.4 2 224.5 1 400.6 744.3	51 58 52 53	70 71 71 71	90 89 92 92	98 98 98 98	1 029 1 154 (NA) (NA)	76 81 82 81	84 94 87 74	(X) (X) (X) (X)				
3593	Fluid power cylinders and actuators ¹¹ -----	1987-- 331	1 896.6	49	56	69	84	862	83	89	(X)				
3594	Fluid power pumps and motors ¹¹ -----	1987-- 133	1 404.4	40	60	85	97	627	84	78	(X)				
3596	Scales and balances, except laboratory ⁴⁷ -----	1987-- 118 1982-- 113 1977-- 92 1972-- 86 1970-- (NA) 1967-- 69 1966-- (NA) 1963-- 81	633.0 516.4 348.1 200.4 157.3 140.2 130.7 98.5	40 37 50 50 62 53 50 50	59 52 66 68 76 72 (NA) (NA)	80 77 85 88 (NA) (NA) (NA) 88	95 95 98 99 (NA) (NA) (NA) 99	698 628 (NA) (NA) (NA) (NA) (NA) (NA)	98 98 96 92 95 93 96 92	94 86 99 95 3 96 8 97	(X) (X) (X) (X) (X) (X) (X) (X)				
3599	Industrial machinery, n.e.c. ¹⁷ -----	1987-- 21 414	13 700.0	2	4	6	9	4	96	96	(X)				
36	ELECTRONIC AND OTHER ELECTRIC EQUIPMENT														
3612	Transformers, except electronic -----	1987-- 239 1982-- 240 1977-- 229 1972-- 168 1970-- (NA) 1967-- 150 1966-- (NA) 1963-- 144 1958-- 153 1954-- 152 1947-- 134	3 289.5 2 916.0 2 209.1 1 461.9 1 392.5 1 188.4 1 053.0 722.9 639.1 686.1 357.0	46 52 56 59 59 65 66 68 71 78 73	66 70 70 75 76 78 80 79 93 94 84	84 84 85 90 (NA) 92 (NA) (NA) 98 94 93	93 94 95 97 (NA) (NA) (NA) (NA) 98 94 92	706 931 (NA) (NA) (NA) (NA) (NA) (NA)	95 94 95 96 97 95 98 92 94 93 87	98 96 97 97 1 98 92 94 93 87 91	(X) (X) (X) (X) (X) (X) (X) (X) (X) (X) (X)				
3613	Switchgear and switchboard apparatus ¹⁷ -----	1987-- 371	4 907.3	47	63	77	87	716	92	93	(X)				
3621	Motors and generators -----	1987-- 349 1982-- 349 1977-- 343 1972-- 325 1970-- (NA) 1967-- 320 1966-- (NA) 1963-- 316 1958-- 317 1954-- 266 1947-- 224	6 753.1 6 060.1 4 462.7 2 516.0 2 475.2 2 402.3 2 288.8 1 709.8 1 359.7 1 389.1 995.6	36 36 42 47 50 48 57 50 47 50 59	49 50 55 59 62 60 57 59 56 59 66	67 67 72 78 (NA) 74 (NA) (NA) 72 75 80	84 84 86 90 (NA) 87 (NA) (NA) 88 (NA) (NA)	436 476 (NA) (NA) (NA) (NA) (NA) (NA) (NA) (NA) (NA)	95 94 92 91 83 83 81 81 83 82 81	89 81 80 81 1 83 82 84 88 84 92	(X) (X) (X) (X) (X) (X) (X) (X) (X) (X) (X)				
3624	Carbon and graphite products -----	1987-- 77 1982-- 70 1977-- 58 1972-- 58 1970-- (NA) 1967-- 49 1966-- (NA) 1963-- 40 1958-- 34 1954-- 43 1947-- 36	1 224.5 971.4 735.2 397.4 369.6 296.4 283.2 226.9 154.5 111.0 68.7	62 74 80 80 87 86 88 83 87 86 87	77 82 88 91 94 93 98 92 99 93 93	90 94 97 98 (NA) (NA) (NA) (NA) 100 98 99 100 100 100	99 99 99+ (NA) (NA) (NA) (NA) 100 (NA) (NA) (NA)	1 186 1 931 (NA) (NA) (NA) (NA) (NA) (NA) (NA) (NA)	96 94 93 95 98 96 96 93 96 94 95	91 93 93 98 1 96 93 96 97 94 95	(X) (X) (X) (X) (X) (X) (X) (X) (X) (X) (X)				
3625	Relays and industrial controls ¹¹ -----	1987-- 1 101	6 100.5	31	42	56	68	346	94	90	(X)				
3629	Electrical industrial apparatus, n.e.c. -----	1987-- 472 1982-- 309 1977-- 213 1972-- 245 1970-- (NA) 1967-- 212 1966-- (NA) 1963-- 226	1 188.2 1 111.3 692.4 449.4 409.9 328.8 369.4 238.3	22 26 28 31 35 45 33 38	38 42 43 47 49 51 45 51	58 65 66 65 61 61 (NA) (NA)	80 85 87 (NA) (NA) 83 (NA) (NA)	241 320 (NA) (NA) (NA) (NA) (NA) (NA)	88 87 81 85 84 67 (NA) (NA)	87 92 81 80 67 66 6 72	(X) (X) (X) (X) (X) (X) (X) (X)				
3631	Household cooking equipment -----	1987-- 65 1982-- 71 1977-- 84 1972-- 74 1970-- (NA) 1967-- 66 1966-- (NA) 1963-- 77	3 395.8 2 414.9 1 707.2 939.8 656.5 551.9 548.5 473.5	66 52 51 60 61 56 54 51	85 73 71 73 76 72 71 68	97 93 90 90 (NA) 90 (NA) (NA)	99+ 99+ 99+ 99+ 99+ 99+ 99+ 99+	1 353 914 (NA) (NA) (NA) (NA) (NA) (NA)	96 86 92 91 90 77 87 72	78 84 80 74 77 72 84 72	(X) (X) (X) (X) (X) (X) (X) (X)				

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Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

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SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
36	ELECTRONIC AND OTHER ELECTRIC EQUIPMENT—Con.														
3632	Household refrigerators and freezers	1987	40	3 518.9	85	98	99+	100	2 256	97	98	(X)			
		1982	39	2 470.7	94	98	99+	100	2 745	85	94	(X)			
		1977	33	2 576.6	82	98	99+	100	(NA)	77	98	(X)			
		1972	30	1 719.7	85	98	99+	100	(NA)	75-80	80-85	(X)			
		1970	(NA)	2 022.1	82	99	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	31	1 785.4	73	93	99+	100	(NA)	59	99	(X)			
		1966	(NA)	1 674.9	72	93	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	31	1 306.5	74	91	99+	100	(NA)	66	99	(X)			
3633	Household laundry equipment	1987	11	3 034.8	93	(D)	100	(X)	2 855	(D)	100	(X)			
		1982	15	2 122.2	91	(D)	100	(X)	(D)	85	99	(X)			
		1977	21	1 792.8	89	(D)	(D)	100	(NA)	87	90	(X)			
		1972	20	1 356.5	83	98	100	(X)	(NA)	88	91	(X)			
		1970	(NA)	1 081.0	83	97	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	25	982.5	78	95	99+	100	(NA)	87	90	(X)			
		1966	(NA)	946.9	79	95	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	31	760.2	78	95	99+	100	(NA)	89	87	(X)			
		1958	34	722.2	71	90	99	100	(NA)	91	91	(X)			
		1954	48	527.5	68	85	99	100	(NA)	93	81	(X)			
		1947	59	442.3	40	65	91	(NA)	(NA)	90	91	(X)			
		1935	(NA)	(NA)	56	79	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
3634	Electric housewares and fans	1987	201	2 825.7	38	55	80	96	565	91	90	(X)			
		1982	217	3 128.4	38	53	79	96	547	84	94	(X)			
		1977	239	2 531.2	46	59	78	94	(NA)	87	90	(X)			
		1972	247	1 615.0	43	60	76	91	(NA)	88	91	(X)			
		1970	(NA)	1 275.5	45	59	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	248	1 112.0	52	63	80	94	(NA)	90	86	(X)			
		1966	(NA)	1 127.8	50	61	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	286	850.3	41	59	78	92	(NA)	87	81	(X)			
3635	Household vacuum cleaners	1987	28	1 324.2	69	90	99+	100	1 508	89	87	(X)			
		1982	29	775.7	80	96	99+	100	1 951	95	80	(X)			
		1977	32	639.9	83	95	99+	100	(D)	80	81	(X)			
		1972	34	467.7	75	91	99	100	(NA)	80	85	(X)			
		1970	(NA)	346.1	79	97	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	34	293.2	76	94	99	100	(NA)	75	84	(X)			
		1966	(NA)	252.6	78	98	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	34	175.4	81	96	99	100	(NA)	87	80	(X)			
3639	Household appliances, n.e.c. ²⁸	1987	61	2 398.3	54	84	98	99+	1 044	87	91	(X)			
		1982	70	1 432.0	51	82	96	99+	928	90	82	(X)			
		1977	65	1 184.0	52	83	98	99+	(NA)	93	79	(X)			
		1972	70	681.9	57	76	94	99+	(NA)	93	96	(X)			
		1970	(NA)	535.8	46	67	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	71	479.9	44	65	92	99+	(NA)	87	79	(X)			
		1966	(NA)	448.9	45	67	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	102	435.5	41	61	86	98	(NA)	79	79	(X)			
3641	Electric lamp bulbs and tubes ¹⁷	1987	93	3 096.7	91	94	98	99+	(D)	98	99	(X)			
3643	Current-carrying wiring devices	1987	365	3 848.1	28	41	60	80	298	84	82	(X)			
		1982	357	2 510.3	28	39	56	77	287	85	76	(X)			
		1977	361	1 795.2	26	38	59	82	(NA)	84	79	(X)			
		1972	366	1 216.6	30	46	65	83	(NA)	83	81	(X)			
		1970	(NA)	1 008.9	32	47	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1967	351	837.0	32	48	67	83	(NA)	78	78	(X)			
		1966	(NA)	811.3	32	48	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1963	431	616.0	28	44	64	82	(NA)	80	83	(X)			
3644	Noncurrent-carrying wiring devices	1987	177	2 903.2	29	48	75	93	388	84	85	(X)			
		1982	187	2 399.6	30	44	68	91	362	79	88	(X)			
		1977	174	1 421.8	25	39	65	89	(NA)	82	83	(X)			
		1972	149	886.4	24	41	67	91	(NA)	81	78	(X)			
		1970	(NA)	789.4	24	40	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	158	637.9	26	42	68	93	(NA)	74	82	(X)			
		1966	(NA)	673.9	22	36	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1963	168	479.0	22	39	66	91	(NA)	77	80	(X)			
3645	Residential lighting fixtures	1987	551	1 772.6	24	32	45	65	236	95	91	(X)			
		1982	613	1 351.8	19	27	41	58	152	93	95	(X)			
		1977	675	986.6	25	33	45	61	(NA)	95	92	(X)			
		1972	665	767.2	28	35	46	59	(NA)	97	93	(X)			
3646	Commercial lighting fixtures	1987	242	2 739.9	54	66	77	88	854	88	89	(X)			
		1982	219	1 671.9	35	50	70	85	501	91	87	(X)			
		1977	192	922.7	30	46	68	86	(NA)	90	86	(X)			
		1972	206	718.7	25	40	64	85	(NA)	90	91	(X)			
3647	Vehicular lighting equipment	1987	68	1 969.6	76	84	94	99+	2 594	(D)	96	(X)			
		1982	78	1 013.6	71	80	92	99	2 288	65	96	(X)			
		1977	70	908.5	(D)	86	95	99+	(NA)	68	94	(X)			
		1972	46	499.8	78	89	97	100	(NA)	68	94	(X)			
3648	Lighting equipment, n.e.c.	1987	246	1 673.9	28	41	59	80	289	86	81	(X)			
		1982	222	1 028.0	31	44	63	82	384	87	74	(X)			
		1977	211	671.0	25	39	60	82	(NA)	85	81	(X)			
		1972	172	466.5	29	46	73	90	(NA)	86	79	(X)			
3651	Household audio and video equipment	1987	360	5 911.2	39	59	81	92	559	94	92	(X)			
		1982	432	6 063.9	49	70	86	94	751	90	95	(X)			
		1977	546	5 731.6	51	65	81	92	(NA)	94	98	(X)			
		1972	343	4 440.1	49	71	86	96	(NA)	95	99	(X)			
		1970	(NA)	3 594.8	48	67	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967	303	3 846.3	49	69	85	95	(NA)	94	99	(X)			
		1966	(NA)	4 117.4	48	68	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1963	322	2 254.9	41	62	82	94	(NA)	91	96	(X)			

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			Total (million dollars)	Percent accounted for by ⁴ —											
				4 largest companies	8 largest companies	20 largest companies	50 largest companies								
36	ELECTRONIC AND OTHER ELECTRIC EQUIPMENT—Con.														
3652	Prerecorded records and tapes ¹⁷ ----- 1987--	462	1 921.6	63	70	79	87	1 505	100	99	(X)				
3661	Telephone and telegraph apparatus ¹⁷ ----- 1987--	403	9 588.0	63	71	82	91	1 933	96	96	(X)				
3663	Radio and television communications equipment ¹¹ ----- 1987--	572	14 228.6	37	55	68	81	502	88	87	(X)				
3669	Communications equipment, n.e.c. ¹¹ ----- 1987--	364	2 189.6	34	47	63	81	376	93	89	(X)				
3671	Electron tubes ¹⁷ ----- 1987--	102	2 735.4	55	76	94	99+	957	83	93	(X)				
3672	Printed circuit boards ¹¹ ----- 1987--	950	4 672.6	14	22	36	53	108	97	92	(X)				
3674	Semiconductors and related devices ----- 1987--	755	19 794.9	40	58	72	86	539	96	95	(X)				
	1982--	685	12 429.9	40	57	77	90	597	94	96	(X)				
	1977--	499	5 327.1	42	62	79	90	(NA)	93	94	(X)				
	1972--	289	2 704.8	57	70	82	94	(NA)	89	92	(X)				
	1970--	(NA)	1 473.2	49	65	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967--	141	1 141.0	47	65	85	98	(NA)	92	87	(X)				
	1966--	(NA)	1 123.7	51	70	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1963--	86	687.8	46	65	90	99	(NA)	88	92	(X)				
3675	Electronic capacitors ----- 1987--	116	1 440.1	47	63	83	96	751	93	97	(X)				
	1982--	93	1 188.9	50	68	87	98	874	94	90	(X)				
	1977--	86	742.3	47	62	86	98	(NA)	92	91	(X)				
	1972--	79	445.8	42	61	85	97	(NA)	90	87	(X)				
3676	Electronic resistors ----- 1987--	87	882.7	42	62	82	97	649	95	94	(X)				
	1982--	77	765.8	43	68	89	98	676	89	88	(X)				
	1977--	77	578.3	38	63	86	98	(NA)	87	81	(X)				
	1972--	67	372.2	43	65	86	99	(NA)	90	74	(X)				
3677	Electronic coils and transformers ----- 1987--	391	1 228.4	21	29	43	62	185	90	91	(X)				
	1982--	353	863.3	12	20	38	58	95	91	84	(X)				
	1977--	276	506.4	20	30	46	67	(NA)	91	75	(X)				
	1972--	215	354.1	14	24	45	71	(NA)	87	79	(X)				
3678	Electronic connectors ----- 1987--	216	4 065.0	45	57	75	90	1 011	87	92	(X)				
	1982--	148	2 565.0	40	55	79	94	637	87	91	(X)				
	1977--	106	1 104.6	45	65	82	96	(NA)	78	86	(X)				
	1972--	75	483.3	55	71	87	98	(NA)	87	81	(X)				
3679	Electronic components, n.e.c. ¹⁷ ----- 1987--	2 743	15 438.5	(D)	44	51	62	1 083	83	83	(X)				
3691	Storage batteries ----- 1987--	125	3 303.1	64	78	92	99	1 126	97	99	(X)				
	1982--	129	2 431.3	56	79	92	98	989	97	98	(X)				
	1977--	134	1 982.5	57	84	93	98	(NA)	97	99	(X)				
	1972--	138	968.6	57	85	93	98	(NA)	98	99	(X)				
	1970--	(NA)	783.0	56	83	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967--	154	577.5	61	83	93	98	(NA)	98	97	(X)				
	1966--	(NA)	615.7	60	80	(NA)	(NA)	(NA)	(NA)	(NA)	3				
	1963--	169	516.5	59	78	92	97	(NA)	98	99	(X)				
	1958--	206	366.6	64	81	91	96	(NA)	99	100	(X)				
	1954--	244	341.4	64	80	90	(NA)	(NA)	100	100	(X)				
	1947--	205	297.7	62	78	87	(NA)	(NA)	90	99	(X)				
3692	Primary batteries, dry and wet ----- 1987--	59	1 877.8	88	94	99+	99+	(D)	99	96	(X)				
	1982--	36	1 101.8	89	95	99+	100	(D)	94	95	(X)				
	1977--	41	666.1	87	94	99	(NA)	(NA)	96	97	(X)				
	1972--	30	348.1	92	97	99+	100	(NA)	95	98	(X)				
	1970--	(NA)	329.5	85	96	(NA)	(NA)	(NA)	(NA)	(NA)	1				
	1967--	32	307.6	85	95	99+	100	(NA)	97	86	(X)				
	1966--	(NA)	277.0	88	97	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1963--	26	195.3	89	98	99+	100	(NA)	96	91	(X)				
	1958--	24	134.9	84	95	99+	100	(NA)	99	98	(X)				
	1954--	20	121.8	78	93	100	(X)	(NA)	98	98	(X)				
	1947--	23	85.0	76	95	99+	100	(NA)	90-100	98-100	(X)				
3694	Engine electrical equipment ----- 1987--	432	7 489.3	66	75	86	93	2 049	79	90	(X)				
	1982--	393	3 464.3	52	67	82	91	1 122	85	88	(X)				
	1977--	372	3 647.2	62	75	87	94	(NA)	81	89	(X)				
	1972--	266	2 035.0	65	78	89	96	(NA)	79	87	(X)				
	1970--	(NA)	1 569.9	66	75	(NA)	(NA)	(NA)	(NA)	(NA)	2				
	1967--	239	1 364.7	68	77	89	96	(NA)	81	85	(X)				
	1966--	(NA)	1 342.5	72	81	(NA)	(NA)	(NA)	(NA)	(NA)	(X)				
	1963--	163	900.7	69	79	88	97	(NA)	93	81	(X)				
	1958--	147	565.7	66	78	91	95	(NA)	81	85	(X)				
	1954--	154	587.1	62	83	90	(NA)	(NA)	85	87	(X)				
	1947--	100	357.8	67	81	93	(NA)	(NA)	89	91	(X)				
3695	Magnetic and optical recording media ¹¹ ----- 1987--	181	3 504.0	31	53	83	96	468	96	83	(X)				
3699	Electrical equipment and supplies, n.e.c. ¹⁷ ----- 1987--	1 326	5 056.1	21	28	43	59	185	92	79	(X)				

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)			
			Total (million dollars)	Percent accounted for by ⁴ —									
				4 largest companies	8 largest companies	20 largest companies	50 largest companies						
37	TRANSPORTATION EQUIPMENT												
3711	Motor vehicles and car bodies	1987--	352	133 345.6	90	95	99	99+	(D)	97	98	(X)	
		1982--	284	70 739.7	92	97	99	99+	(D)	95	99	(X)	
		1977--	254	76 517.8	93	99	99+	99+	(NA)	95	99	(X)	
		1972--	165	42 905.6	93	99	99+	99+	(NA)	96	100	(X)	
		1970--	(NA)	27 750.7	91	97	(NA)	(NA)	(NA)	(NA)	101	(X)	
		1967--	107	27 296.0	92	98	99+	99+	(NA)	96	99	(X)	
3713	Truck and bus bodies	1987--	657	4 588.7	29	37	51	68	432	96	93	(X)	
		1982--	636	2 463.6	27	34	49	66	422	93	94	(X)	
		⁸² 1977--	770	2 003.3	33	40	52	66	(NA)	94	93	(X)	
		1972--	729	1 564.4	26	34	48	64	(NA)	90	91	(X)	
		1970--	(NA)	935.5	22	31	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
		1967--	620	706.1	21	30	47	65	(NA)	85	92	(X)	
		1966--	(NA)	718.6	27	26	(NA)	(NA)	(NA)	(NA)	(NA)	5	
		1963--	594	476.7	22	32	50	66	(NA)	88	86	(X)	
		1958--	548	292.4	21	31	49	68	(NA)	87	87	(X)	
		1954--	555	256.9	(NA)	(NA)	(NA)	(NA)	(NA)	86	87	(X)	
		1947--	599	242.3	22	31	48	(NA)	(NA)	79	90	(X)	
3714	Motor vehicle parts and accessories	1987--	2 306	62 068.4	60	66	76	83	1 558	91	90	(X)	
		1982--	2 000	36 293.1	61	69	77	84	1 817	93	86	(X)	
		1977--	2 194	35 750.8	62	70	79	86	(NA)	94	87	(X)	
		1972--	1 748	18 333.5	61	69	78	86	(NA)	94	86	(X)	
		1970--	(NA)	13 073.2	58	66	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	1 424	11 623.8	60	68	78	87	(NA)	96	99	(X)	
3715	Truck trailers	1987--	308	3 433.5	36	49	68	84	472	96	99	(X)	
		1982--	286	1 820.6	36	50	67	84	487	95	95	(X)	
		1977--	316	1 910.1	43	56	71	86	(NA)	94	96	(X)	
		1972--	215	1 117.9	45	60	77	91	(NA)	96	94	(X)	
		1970--	(NA)	777.5	49	63	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1967--	147	713.9	48	64	82	95	(NA)	94	91	(X)	
		1966--	(NA)	795.6	53	66	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	175	515.7	59	69	81	93	(NA)	92	93	(X)	
		1958--	155	324.6	52	63	77	93	(NA)	84	83	(X)	
		1954--	115	305.6	57	68	84	(NA)	(NA)	82	93	(X)	
		1947--	107	155.7	56	67	83	(NA)	(NA)	81	87	(X)	
3716	Motor homes	1987--	144	2 486.8	56	67	81	94	1 006	95	96	(X)	
		1982--	79	952.7	54	65	86	98	1 188	97	88	(X)	
		⁸² 1977--	80	1 564.5	43	58	75	94	(NA)	92	94	(X)	
3721	Aircraft	1987--	137	39 092.7	72	92	99	99+	1 686	90	95	(X)	
		1982--	139	28 024.3	64	81	98	99+	1 358	87	97	(X)	
		1977--	151	14 834.2	59	81	99	99+	(NA)	83	98	(X)	
		1972--	141	8 779.3	66	86	99	99+	(NA)	86	96	(X)	
		⁸³ 1970--	(NA)	10 996.2	65	87	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	91	5 447.6	69	89	99	99+	(NA)	83	97	(X)	
		1966--	(NA)	4 674.6	67	88	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	82	3 542.7	59	83	99	99+	(NA)	69	96	(X)	
		⁸⁴ 1954--	(NA)	3 348.9	(NA)	(NA)	(NA)	(NA)	(NA)	81	99	(X)	
		1947--	(NA)	606.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
3724	Aircraft engines and engine parts	1987--	372	20 262.1	77	83	90	95	2 201	92	94	(X)	
		1982--	281	13 809.3	72	83	91	96	1 778	85	96	(X)	
		1977--	226	6 272.3	74	86	93	97	(NA)	81	95	(X)	
		1972--	189	3 640.2	77	87	94	97	(NA)	87	94	(X)	
3728	Aircraft parts and equipment, n.e.c.	1987--	925	17 949.3	42	57	74	86	652	82	71	(X)	
		1982--	912	10 193.1	38	54	73	85	598	71	65	(X)	
		1977--	681	4 760.6	45	56	73	85	(NA)	72	57	(X)	
		1972--	649	3 031.9	33	51	69	84	(NA)	77	66	(X)	
3731	Ship building and repairing ⁸⁵	1987--	547	8 504.4	49	64	75	87	755	99	99	(X)	
		1982--	617	10 967.2	35	49	69	84	418	99	99	(X)	
		1977--	542	6 495.1	43	58	76	88	(NA)	97	99	(X)	
		1972--	415	3 281.0	47	63	81	91	(NA)	98	98	(X)	
		1970--	(NA)	2 534.1	46	65	(NA)	(NA)	(NA)	(NA)	(NA)	1	
		1967--	389	2 518.2	42	59	77	90	(NA)	95	96	(X)	
		1966--	(NA)	2 338.9	42	61	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1963--	305	1 679.8	48	63	81	92	(NA)	92	99	(X)	
		1958--	293	1 626.3	48	66	80	91	(NA)	93	99	(X)	
		1954--	328	1 077.9	43	58	74	(NA)	(NA)	92	99	(X)	
		1947--	272	802.6	43	55	73	(NA)	(NA)	94	98	(X)	
3732	Boat building and repairing	1987--	2 108	5 352.5	33	41	52	65	538	99	99	(X)	
		1982--	1 834	2 359.2	14	22	35	52	91	98	96	(X)	
		1977--	2 148	1 822.6	11	19	32	49	(NA)	98	96	(X)	
		1972--	1 725	1 048.2	14	23	38	54	(NA)	97	96	(X)	
		1970--	(NA)	673.5	15	24	(NA)	(NA)	(NA)	(NA)	(NA)	4	
		1967--	1 565	571.4	19	27	41	57	(NA)	96	91	(X)	
		1966--	(NA)	485.1	20	29	(NA)	(NA)	(NA)	(NA)	(NA)	4	
		1963--	1 596	360.2	21	29	42	56	(NA)	97	95	(X)	
		1958--	1 622	310.2	18	25	37	52	(NA)	94	95	(X)	
		1954--	1 146	154.4	21	28	39	(NA)	(NA)	93	85	(X)	
		1947--	798	114.4	31	41	53	(NA)	(NA)	83	88	(X)	
3743	Railroad equipment	1987--	150	2 470.9	52	71	88	96	994	88	96	(X)	
		1982--	158	3 456.6	58	71	88	97	1 221	85	96	(X)	
		1977--	145	4 278.3	51	65	86	97	(NA)	91	94	(X)	
		1972--	128	2 446.2	56	70	90	98	(NA)	92	95	(X)	

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Percent accounted for by ⁴												
			Total (million dollars)	4 largest companies	8 largest companies	20 largest companies	50 largest companies								
37	TRANSPORTATION EQUIPMENT—Con.														
3751	Motorcycles, bicycles, and parts	1987--	242	1 062.6	66	74	52	90	1 453	94	82	(X)			
		1982--	269	1 341.1	59	79	88	94	1 077	85	96	(X)			
		1977--	343	1 007.6	66	81	89	94	(NA)	84	97	(X)			
		¹⁰ 1972--	219	669.5	65	78	92	97	(NA)	81	95	(X)			
		1970--	(NA)	404.8	57	72	(NA)	(NA)	(NA)	(NA)	(NA)	7			
		1967--	87	299.6	57	76	95	99+	(NA)	89	96	(X)			
		1966--	(NA)	261.1	57	78	(NA)	(NA)	(NA)	(NA)	(NA)	4			
		1963--	85	192.9	56	77	94	99+	(NA)	83	93	(X)			
		1958--	49	118.3	58	81	97	99+	(NA)	84	93	(X)			
		1954--	44	95.6	50	77	97	100	(NA)	86	92	(X)			
		1947--	75	163.7	42	68	92	(NA)	(NA)	87	89	(X)			
		1935--	(NA)	(NA)	60	90	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
3761	Guided missiles and space vehicles	1987--	19	21 565.8	58	92	100	(X)	1 220	75	93	(X)			
		1982--	16	10 218.6	71	96	100	(X)	1 578	83	86	(X)			
		1977--	20	5 314.4	64	94	100	(X)	(NA)	87	91	(X)			
		1972--	23	4 123.7	62	88	(D)	100	(NA)	81	95	(X)			
3764	Space propulsion units and parts	1987--	27	3 537.1	73	97	99+	100	1 570	83	82	(X)			
		1982--	20	2 221.2	68	93	100	(X)	1 402	89	89	(X)			
		1977--	18	945.5	69	93	100	(X)	(NA)	92	88	(X)			
		1972--	22	716.3	59	92	(D)	100	(NA)	91	87	(X)			
3769	Space vehicle equipment, n.e.c.	1987--	61	1 182.2	62	78	94	99+	1 350	81	(D)	(X)			
		1982--	45	1 958.3	(D)	(D)	99	100	(D)	62	46	(X)			
		1977--	41	339.4	76	86	97	100	(NA)	85	(D)	(X)			
		1972--	45	788.2	70	85	97	100	(NA)	79	68	(X)			
3792	Travel trailers and campers	1987--	384	1 868.8	34	50	66	83	433	94	88	(X)			
		1982--	446	1 281.6	36	48	63	79	423	88	97	(X)			
		1977--	775	1 582.4	31	44	58	72	(NA)	88	90	(X)			
		1972--	943	1 342.4	21	29	43	59	(NA)	92	94	(X)			
3795	Tanks and tank components	1987--	50	2 521.8	92	95	98	100	(D)	(D)	(D)	(X)			
		1982--	38	2 351.0	85	95	99	100	2 515	(D)	(D)	(X)			
		1977--	20	934.2	87	97	100	(X)	(NA)	92	82	(X)			
		1972--	18	272.2	95	99	100	(X)	(NA)	95	77	(X)			
3799	Transportation equipment, n.e.c.	1987--	617	1 642.1	29	41	58	70	302	94	94	(X)			
		1982--	408	895.2	24	33	52	72	223	93	82	(X)			
		1977--	408	620.9	35	46	63	79	(NA)	94	79	(X)			
		⁸⁶ 1972--	444	654.6	28	38	53	73	(NA)	93	74	(X)			
38	INSTRUMENTS AND RELATED PRODUCTS														
3812	Search and navigation equipment ¹¹	1987--	918	36 266.8	29	49	76	92	401	89	90	(X)			
3821	Laboratory apparatus and furniture ¹¹	1987--	246	1 769.3	35	47	64	85	571	89	92	(X)			
3822	Environmental controls	1987--	230	2 068.8	50	70	84	94	948	92	89	(X)			
		1982--	221	1 549.1	51	71	86	95	1 000	92	90	(X)			
		1977--	182	1 358.7	59	81	92	97	(NA)	80	92	(X)			
		1972--	117	728.1	57	76	93	99	(NA)	86	90	(X)			
		1970--	(NA)	642.2	56	81	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967--	88	618.0	56	75	96	99+	(NA)	81	(X)	2			
		1966--	(NA)	628.5	59	77	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
		1963--	89	527.4	55	75	96	99+	(NA)	82	95	(X)			
3823	Process control instruments	1987--	707	4 788.2	24	34	51	69	215	92	92	(X)			
		1982--	586	4 037.8	32	44	59	74	353	91	87	(X)			
		1977--	383	2 022.0	32	46	64	81	(NA)	90	80	(X)			
		⁸⁷ 1972--	175	906.9	35	53	75	89	(NA)	83	83	(X)			
3824	Fluid meters and counting devices	1987--	148	938.6	39	60	83	95	586	95	76	(X)			
		1982--	133	728.3	38	59	81	95	568	94	84	(X)			
		1977--	100	650.4	43	67	87	98	(NA)	80	80	(X)			
		⁸⁷ 1972--	51	296.2	57	77	95	(D)	(NA)	90	79	(X)			
3825	Instruments to measure electricity	1987--	864	7 703.3	35	46	61	75	446	95	92	(X)			
		1982--	676	6 094.4	42	50	65	80	685	94	91	(X)			
		1977--	622	2 761.0	33	43	61	78	(NA)	90	89	(X)			
		¹⁰ 1972--	606	1 493.5	38	49	64	79	(NA)	82	88	(X)			
		1970--	(NA)	1 309.9	38	48	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1967--	502	1 184.0	35	45	61	77	(NA)	84	79	(X)			
		1966--	(NA)	1 020.5	36	48	(NA)	(NA)	(NA)	(NA)	(NA)	3			
		1963--	536	749.2	34	47	65	81	(NA)	84	78	(X)			
3826	Analytical instruments ¹¹	1987--	528	3 468.2	28	40	60	78	293	87	90	(X)			
3827	Optical instruments and lenses ¹¹	1987--	236	1 863.6	35	51	71	86	469	91	80	(X)			
3829	Measuring and controlling devices, n.e.c. ¹⁷	1987--	938	3 442.0	15	28	45	63	134	86	80	(X)			
3841	Surgical and medical instruments	1987--	1 029	7 779.5	30	43	60	76	331	92	94	(X)			
		1982--	766	4 048.5	32	50	66	81	376	90	81	(X)			
		1977--	575	1 833.1	32	48	67	82	(NA)	88	80	(X)			
		1972--	448	961.8	32	45	64	81	(NA)	90	82	(X)			
		1970--	(NA)	630.2	43	55	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1967--	298	475.4	38	54	72	88	(NA)	91	63	(X)			
		1966--	(NA)	360.1	40	51	(NA)	(NA)	(NA)	(NA)	(NA)	6			
		1963--	256	284.0	47	58	72	86	(NA)	88	74	(X)			

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38	INSTRUMENTS AND RELATED PRODUCTS												
	—Con.												
3842	Surgical appliances and supplies	1987--	1 329	8 534.1	27	37	52	69	339	90	91		
		1982--	1 224	5 667.1	30	41	57	72	352	86	89		
		1977--	1 017	2 597.3	38	49	62	77	(NA)	87	85		
		1972--	780	1 453.5	41	54	67	81	(NA)	79	90		
		1970--	(NA)	1 209.6	43	56	(NA)	(NA)	(NA)	(NA)	2		
		1967--	755	837.9	44	53	66	80	(NA)	80	86		
		1966--	(NA)	768.9	45	55	(NA)	(NA)	(NA)	(NA)	6		
		1963--	525	594.8	49	58	71	84	(NA)	80	90		
3843	Dental equipment and supplies	1987--	473	1 420.7	36	52	71	84	484	94	98		
		1982--	438	1 111.7	38	55	74	86	482	95	99		
		1977--	507	786.7	33	46	69	86	(NA)	92	98		
		1972--	385	409.2	35	49	71	87	(NA)	93	94		
		1970--	(NA)	274.2	38	54	(NA)	(NA)	(NA)	(NA)	3		
		1967--	314	220.5	41	53	73	89	(NA)	94	94		
		1966--	(NA)	205.6	37	50	(NA)	(NA)	(NA)	(NA)	7		
		1963--	267	147.8	37	50	70	88	(NA)	94	92		
		1958--	240	108.7	45	57	73	89	(NA)	95	92		
		1954--	193	79.2	40	53	73	(NA)	(NA)	95	94		
		1947--	209	71.1	40	52	72	(NA)	(NA)	97	94		
		1935--	(NA)	(NA)	51	67	(NA)	(NA)	(NA)	(NA)	(X)		
3844	X-ray apparatus and tubes ¹¹	1987--	69	1 554.3	66	78	93	99+	2 003	95	86		
3845	Electromedical equipment ¹¹	1987--	196	3 576.7	34	50	74	91	434	94	88		
3851	Ophthalmic goods	1987--	479	1 689.4	31	49	68	82	382	94	98		
		1982--	390	1 273.0	45	56	74	88	975	91	98		
		1977--	593	971.8	45	56	70	84	(NA)	92	98		
		1972--	447	568.3	56	66	77	89	(NA)	88	97		
		1970--	(NA)	516.0	54	63	(NA)	(NA)	(NA)	(NA)	4		
		1967--	432	426.0	51	58	71	84	(NA)	88	95		
		1966--	(NA)	346.8	60	70	(NA)	(NA)	(NA)	(NA)	3		
		1963--	211	272.7	53	62	77	90	(NA)	86	82		
		1958--	226	191.5	52	62	74	86	(NA)	87	98		
		1954--	223	157.9	54	63	75	(NA)	(NA)	83	94		
		1947--	175	121.2	58	69	80	(NA)	(NA)	86	97		
3861	Photographic equipment and supplies	1987--	717	19 240.5	77	84	90	94	2 241	93	98		
		1982--	723	17 037.5	74	86	91	94	2 157	94	97		
		1977--	702	9 946.9	72	86	90	94	(NA)	95	95		
		1972--	555	5 623.9	74	85	92	95	(NA)	95	96		
		1970--	(NA)	4 372.5	75	86	(NA)	(NA)	(NA)	(NA)	1		
		1967--	505	3 664.5	69	81	89	95	(NA)	95	97		
		1966--	(NA)	3 285.7	67	79	(NA)	(NA)	(NA)	(NA)	2		
		1963--	499	1 851.2	63	76	86	93	(NA)	95	97		
		1958--	450	1 133.6	65	74	85	93	(NA)	94	94		
		1954--	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)		
		1947--	346	457.5	61	70	81	(NA)	(NA)	93	97		
		1935--	(NA)	(NA)	77	84	(NA)	(NA)	(NA)	(NA)	(X)		
3873	Watches, clocks, watchcases, and parts	1987--	213	1 220.9	45	60	80	94	840	98	94		
		1982--	227	1 187.6	51	62	81	93	1 432	95	93		
		1977--	283	1 594.7	58	66	82	94	(NA)	91	95		
		1972--	183	937.2	55	67	84	96	(NA)	87	95		
39	MISCELLANEOUS MANUFACTURING INDUSTRIES												
3911	Jewelry, precious metal	1987--	2 294	4 078.1	12	18	30	45	68	97	98		
		1982--	2 159	3 039.1	16	22	33	47	91	94	97		
		1977--	2 165	2 107.0	18	24	35	48	(NA)	92	97		
		1972--	1 497	1 124.6	21	26	35	49	(NA)	92	96		
		1970--	(NA)	904.3	21	(S)	(NA)	(NA)	(NA)	(NA)	4		
		1967--	1 477	741.8	23	28	38	49	(NA)	91	96		
		1966--	(NA)	693.8	25	32	(NA)	(NA)	(NA)	(NA)	10		
		1963--	1 428	481.9	26	33	42	53	(NA)	92	97		
		1958--	1 300	303.3	18	25	36	48	(NA)	95	98		
		1954--	1 323	258.1	15	23	36	(NA)	(NA)	93	96		
		1947--	1 342	248.2	13	20	32	(NA)	(NA)	92	95		
3914	Silverware and plated ware	1987--	205	528.7	57	69	83	92	1 111	97	99		
		1982--	199	583.9	59	75	87	94	1 084	96	98		
		1977--	247	457.0	51	67	83	92	(NA)	93	98		
		1972--	188	364.7	52	68	85	94	(NA)	94	97		
		1970--	(NA)	316.1	56	68	(NA)	(NA)	(NA)	(NA)	4		
		1967--	186	339.1	56	67	82	93	(NA)	95	99		
		1966--	(NA)	325.1	55	66	(NA)	(NA)	(NA)	(NA)	2		
		1963--	201	238.0	55	66	81	91	(NA)	95	98		
		1958--	198	192.2	54	67	79	91	(NA)	95	98		
		1954--	190	211.1	61	72	83	(NA)	(NA)	91	97		
		1947--	221	221.6	61	72	82	(NA)	(NA)	98	97		
		1935--	(NA)	(NA)	56	68	(NA)	(NA)	(NA)	(NA)	(X)		
3915	Jewelers' materials and lapidary work	1987--	437	947.3	29	41	61	81	301	92	93		
		1982--	477	755.5	26	37	60	79	291	96	86		
		1977--	650	685.2	17	27	48	70	(NA)	96	89		
		1972--	566	323.3	18	29	51	71	(NA)	95	86		

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³				Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)			
			Total (million dollars)	Percent accounted for by ⁴ —									
				4 largest companies	8 largest companies	20 largest companies	50 largest companies						
39	MISCELLANEOUS MANUFACTURING INDUSTRIES—Con.												
3931	Musical instruments	1987--	402	814.1	31	46	69	84	378	97	98	(X)	
		1982--	403	915.9	33	53	74	87	429	98	97	(X)	
		1977--	400	924.9	31	53	78	91	(NA)	98	99	(X)	
		1972--	310	617.5	38	60	82	94	(NA)	97	99	(X)	
		1970--	(NA)	478.9	40	58	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1967--	304	434.3	34	57	79	91	(NA)	97	98	(X)	
		1966--	(NA)	437.3	36	57	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1963--	288	314.4	38	54	73	88	(NA)	97	92	(X)	
3942	Dolls and stuffed toys	1987--	191	294.0	34	50	74	90	434	99	79	(X)	
		1982--	233	402.7	36	49	71	90	688	90	66	(X)	
		1977--	223	340.2	37	46	66	87	(NA)	94	59	(X)	
		1972--	237	199.1	22	34	55	79	(NA)	99	68	(X)	
		1970--	(NA)	169.9	21	35	(NA)	(NA)	(NA)	(NA)	(NA)	6	
		1967--	331	162.8	19	31	51	72	(NA)	99+	70	(X)	
		1966--	(NA)	150.2	(S)	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	5	
		1963--	404	247.9	(D)	50	62	75	(NA)	80-85	87	(X)	
		1958--	482	160.3	12	20	37	59	(NA)	98	94	(X)	
		1954--	484	142.7	19	29	43	(NA)	(NA)	92	97	(X)	
		1947--	374	69.8	39	48	62	(NA)	(NA)	89	98	(X)	
3944	Games, toys, and children's vehicles	1987--	698	3 381.3	43	55	71	84	618	93	94	(X)	
		1982--	732	4 476.0	41	58	76	87	527	89	91	(X)	
		1977--	754	2 719.7	34	47	66	82	(NA)	86	93	(X)	
		1972--	618	1 734.3	35	49	65	80	(NA)	86	92	(X)	
3949	Sporting and athletic goods, n.e.c.	1987--	1 708	5 123.0	13	21	35	57	94	94	98	(X)	
		1982--	1 453	3 376.8	17	28	44	62	140	97	95	(X)	
		1977--	1 757	2 425.1	21	28	41	59	(NA)	95	94	(X)	
		1972--	1 441	1 729.2	28	37	50	66	(NA)	89	94	(X)	
		1970--	(NA)	949.5	24	33	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1967--	1 304	853.3	27	33	47	62	(NA)	95	91	(X)	
		1966--	(NA)	805.1	27	34	(NA)	(NA)	(NA)	(NA)	(NA)	4	
		1963--	1 361	704.7	37	44	52	64	(NA)	93	91	(X)	
		1958--	1 167	542.5	41	49	58	69	(NA)	88	91	(X)	
		1954--	1 007	293.7	21	31	47	(NA)	(NA)	90	86	(X)	
		1947--	843	202.3	24	37	53	(NA)	(NA)	94	90	(X)	
3951	Pens and mechanical pencils	1987--	106	818.8	49	65	84	97	772	94	81	(X)	
		1982--	129	809.4	41	62	81	95	623	91	86	(X)	
		1977--	133	669.8	50	64	80	94	(NA)	85	94	(X)	
		⁸⁸ 1972--	112	310.5	47	63	82	96	(NA)	92	91	(X)	
		1970--	(NA)	243.5	45	64	(NA)	(NA)	(NA)	(NA)	(NA)	3	
		1967--	113	211.8	46	60	80	96	(NA)	93	92	(X)	
		1966--	(NA)	216.4	46	60	(NA)	(NA)	(NA)	(NA)	(NA)	4	
		1963--	122	185.5	48	60	79	94	(NA)	90	93	(X)	
3952	Lead pencils and art goods	1987--	141	609.3	54	70	86	96	1 167	80	90	(X)	
		1982--	144	445.9	48	67	83	95	902	79	88	(X)	
		1977--	127	275.9	49	68	84	97	(NA)	85	79	(X)	
		1972--	136	198.8	41	64	82	95	(NA)	83	88	(X)	
		1970--	(NA)	172.8	41	65	(NA)	(NA)	(NA)	(NA)	(NA)	2	
		1967--	123	158.9	42	61	79	95	(NA)	85	93	(X)	
		1966--	(NA)	159.6	39	57	(NA)	(NA)	(NA)	(NA)	(NA)	5	
		1963--	140	121.6	37	55	75	94	(NA)	87	90	(X)	
		1958--	138	93.4	44	60	(NA)	(NA)	(NA)	88	92	(X)	
3953	Marking devices	1987--	611	442.5	22	31	44	59	182	95	84	(X)	
		1982--	593	337.6	23	32	46	61	206	94	90	(X)	
		1977--	583	248.7	29	38	51	66	(NA)	85	88	(X)	
		⁸⁸ 1972--	584	180.0	31	38	49	63	(NA)	90	91	(X)	
		1970--	(NA)	185.9	28	39	(NA)	(NA)	(NA)	(NA)	(NA)	6	
		1967--	561	146.3	30	43	54	67	(NA)	90	91	(X)	
		1966--	(NA)	162.2	26	40	(NA)	(NA)	(NA)	(NA)	(NA)	11	
		1963--	581	126.8	40	49	59	70	(NA)	84	90	(X)	
		1958--	495	53.6	23	29	41	57	(NA)	96	86	(X)	
		1954--	444	47.6	20	28	42	(NA)	(NA)	90	89	(X)	
		1947--	415	27.5	16	25	40	(NA)	(NA)	89	89	(X)	
		1935--	(NA)	(NA)	18	28	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
3955	Carbon paper and inked ribbons	1987--	108	665.3	37	56	80	95	512	98	76	(X)	
		1982--	93	778.8	48	63	82	97	906	83	73	(X)	
		1977--	78	344.0	47	63	85	99	(NA)	96	64	(X)	
		1972--	72	237.5	37	58	83	99	(NA)	90	61	(X)	
		1970--	(NA)	228.1	30	45	(NA)	(NA)	(NA)	(NA)	(NA)	6	
		1967--	87	206.8	37	54	78	98	(NA)	94	79	(X)	
		1966--	(NA)	196.5	38	56	(NA)	(NA)	(NA)	(NA)	(NA)	5	
		1963--	91	155.5	38	55	78	97	(NA)	83	73	(X)	
		1958--	97	116.4	29	47	75	94	(NA)	91	89	(X)	
		1954--	80	81.2	31	48	78	(NA)	(NA)	93	83	(X)	
		1947--	63	48.6	32	53	83	(NA)	(NA)	90-100	90-100	(X)	
		1935--	(NA)	(NA)	35	56	(NA)	(NA)	(NA)	(NA)	(NA)	(X)	
3961	Costume jewelry	1987--	753	1 391.9	26	40	56	68	257	94	90	(X)	
		1982--	780	1 027.1	27	37	54	68	268	93	90	(X)	
		1977--	837	816.6	23	33	47	63	(NA)	92	89	(X)	
		1972--	764	471.6	17	27	41	59	(NA)	93	90	(X)	
		1970--	(NA)	447.2	26	36	(NA)	(NA)	(NA)	(NA)	(NA)	5	
		1967--	763	376.5	22	31	43	60	(NA)	95	92	(X)	
		1966--	(NA)	335.0	25	33	(NA)	(NA)	(NA)	(NA)	(NA)	6	
		1963--	910	280.5	17	25	39	55	(NA)	95	95	(X)	
		1958--	1 049	245.3	12	18	32	48	(NA)	95	96	(X)	
		1 123	239.4	14	21	32	(NA)	(NA)	(NA)	95	95	(X)	
		1947--	855	170.3	24	33	48	(NA)	(NA)	90	91	(X)	
3965	Fasteners, buttons, needles, and pins ¹¹	1987--	247	670.0	33	43	62	84	365	97	93	(X)	

See footnotes at end of table.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry and year ¹	Companies ² (number)	Value of shipments ³					Herfindahl index for 50 largest companies ⁵	Primary product specialization ratio ⁶ (percent)	Coverage ratio ⁷ (percent)	Standard error of estimate ⁸ (percent)				
			Percent accounted for by ⁴ —												
			Total (million dollars)	4 largest companies	8 largest companies	20 largest companies	50 largest companies								
39	MISCELLANEOUS MANUFACTURING INDUSTRIES—Con.														
3991	Brooms and brushes	1987--	293	990.4	19	30	50	74	176	88	91	(X)			
		1982--	320	818.1	18	31	51	74	180	90	89	(X)			
		1977--	391	673.1	20	33	53	74	(NA)	91	89	(X)			
		1972--	430	438.3	24	36	53	72	(NA)	92	94	(X)			
		1970--	(NA)	408.6	31	42	(NA)	(NA)	(NA)	(NA)	(NA)	2			
		1967--	516	371.8	33	44	58	75	(NA)	90	92	(X)			
		1966--	(NA)	374.4	32	42	(NA)	(NA)	(NA)	(NA)	(NA)	6			
		1963--	628	321.1	31	41	57	73	(NA)	89	(NA)	(X)			
		1958--	713	252.2	23	33	49	65	(NA)	87	96	(X)			
		1954--	688	185.4	21	32	47	(NA)	(NA)	91	92	(X)			
		1947--	698	179.8	22	36	54	(NA)	(NA)	94	97	(X)			
3993	Signs and advertising specialties	1987--	3 676	4 282.6	6	11	18	28	24	96	97	(X)			
		1982--	3 155	2 692.4	6	10	18	30	23	97	96	(X)			
		1977--	3 373	1 738.7	6	11	19	30	(NA)	98	97	(X)			
		1972--	3 221	1 198.1	6	10	18	29	(NA)	98	97	(X)			
		1970--	(NA)	982.7	7	11	(NA)	(NA)	(NA)	(NA)	(NA)	4			
		1967--	3 159	875.1	6	10	17	28	(NA)	97	95	(X)			
		1966--	(NA)	818.6	6	10	(NA)	(NA)	(NA)	(NA)	(NA)	8			
		1963--	3 165	646.8	5	8	15	26	(NA)	96	95	(X)			
		1958--	2 689	446.9	5	8	14	26	(NA)	86	87	(X)			
		1954--	2 600	353.3	8	11	18	(NA)	(NA)	93	92	(X)			
		1947--	1 933	204.7	5	9	18	(NA)	(NA)	95	88	(X)			
		1935--	(NA)	(NA)	9	14	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
3995	Burial caskets	1987--	213	839.9	59	66	77	88	1 820	99	100	(X)			
		1982--	270	682.1	52	60	71	84	1 247	100	99	(X)			
		1977--	376	505.9	36	48	62	75	(NA)	99	98	(X)			
		⁸⁹ 1972--	474	391.9	25	34	47	63	(NA)	99	99	(X)			
		1970--	(NA)	355.2	24	31	(NA)	(NA)	(NA)	(NA)	(NA)	4			
		1967--	527	306.1	22	28	42	58	(NA)	95	98	(X)			
		1966--	(NA)	319.1	22	28	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
		1963--	581	290.0	20	27	41	57	(NA)	95	98	(X)			
		1958--	562	226.6	21	28	42	56	(NA)	95	99	(X)			
		1954--	541	166.1	20	26	38	(NA)	(NA)	97	97	(X)			
		1947--	525	188.8	26	34	45	(NA)	(NA)	90	97	(X)			
		1935--	(NA)	(NA)	17	23	(NA)	(NA)	(NA)	(NA)	(NA)	(X)			
3996	Hard surface floor coverings, n.e.c. ¹⁷	1987--	14	1 309.7	82	99+	100	(X)	2 550	97	100	(X)			
		1982--	12	604.1	99	99+	100	(X)	(D)	94	95-100	(X)			
		1977--	20	607.2	90	97	100	(X)	(NA)	92	98	(X)			
		1972--	18	342.3	91	98	100	(X)	(NA)	88	99	(X)			
		1970--	(NA)	232.6	92	(S)	(NA)	(NA)	(NA)	(NA)	(NA)	1			
		1967--	18	221.7	89	99	100	(X)	(NA)	86	97	(X)			
		1966--	(NA)	230.3	89	98	(NA)	(NA)	(NA)	(NA)	(NA)	8			
		1963--	15	204.1	87	98	100	(X)	(NA)	82	98	(X)			
		1958--	11	178.8	83	(D)	100	(X)	(NA)	(NA)	(NA)	(X)			
		1954--	10	181.6	87	(D)	100	(X)	(NA)	85	97	(X)			
		1947--	14	173.3	80	95	100	(X)	(NA)	91	100	(X)			
3999	Manufacturing industries, n.e.c.	1987--	2 047	4 825.1	14	19	28	38	68	93	93	(X)			

Note: Figures shown in parentheses either have associated standard errors exceeding 15 percent or are not consistent with other Census series and related data. Thus, these estimates may be of limited reliability.

¹Industry codes and descriptions are based on the 1987 Standard Industrial Classification (SIC) Manual. This classification system represents a substantial revision from the previous 1972 edition that was put into effect with the final reports in the 1972 census. Concentration ratios in 1958 were tabulated on the 1945 edition to preserve comparability to prior years. Also, in 1958, establishments in Alaska and Hawaii were not included as part of U.S. industry totals since these States did not attain statehood until 1959. Data and ratios for 1958 and prior years are shown in this report only if the industry definitions are so closely comparable that the concentration ratios could not be affected by the shifting of plants due to industry classification changes or by the change in treatment of Alaska and Hawaii. (See "Concentration Ratios in Manufacturing Industry: 1958," Part I, table 7, for comparability of old/new industry definitions.)

²Determination of company affiliation or establishments is based on census reports and publicly available records. Value of shipment totals or establishments have been summarized into company totals in each manufacturing industry. "Largest" companies are determined by each company's value of shipments in the specified industry.

³Value of shipments figures are not completely comparable between the years 1963 and 1972 and prior years. They include for all establishments classified in the industry (a) value of products primary to the industry; (b) value of all secondary products which are primary to other industries; (c) value of miscellaneous receipts, such as receipts for contract and commission work on materials owned by others, scrap, salable refuse, repairs, etc.; and (d) value of resales—that is, products resold in same condition as bought. In 1958 and prior years, value of resales was excluded from value of shipments.

⁴Percentages consist of the sum of value of shipments of the 4 largest companies (or 8, 20, or 50 companies), divided by total value of shipments of the industry.

⁵The Herfindahl Index was a new item for the 1982 Concentration publication and is not available for prior years. The concept of this index was developed by Orris C. Herfindahl in his unpublished Ph.D. dissertation, "Concentration in the Steel Industry," at Columbia University in 1950. The Herfindahl Index is a truncated index, and is calculated by squaring the concentration ratio of each of the top 50 companies, or the entire universe (whichever is lower) and summing those squares to a cumulative total. The cumulative total is the Herfindahl Index.

⁶Primary product specialization ratio measures the extent to which plants classified in the industry specialize in making products regarded as primary to the industry; that is, the value of plants in the industry is expressed as a ratio of the total shipments of all products made by these establishments (excluding miscellaneous receipts, such as receipts for contract and commission work on materials owned by others, scrap, salable refuse, repairs, etc.).

⁷Coverage ratio measures the extent to which all shipments of primary products of an industry are made by plants classified in the industry, as distinguished from secondary producers elsewhere; that is, the value of shipments of the primary products made by plants classified in the industry is expressed as a ratio of the total shipments of primary products made by all producers, both in and out of the specified industry.

⁸A description of the standard error of estimate is given in appendix A under "Qualifications of the Data." Percentage standard errors shown are approximate relative standard errors of level for the 1970 and 1966 Annual Survey of Manufactures data.

⁹Value added by manufacture is shown for this industry rather than value of shipments because the latter contains a substantial and unmeasurable amount of duplication. The calculations for the 4, 8, 20, and 50 largest companies also are based on value added. (See text for discussion on value added by manufacture.)

¹⁰Although the 1972 definition of this industry is the same as that used in the 1967 SIC system, the content of the industry has changed slightly. The net result of these changes accounts for less than 3 percent of the industry aggregate, and the 1972 data are considered to be directly comparable to prior-year data.

¹¹The Standard Industrial Classification (SIC) code and definition for this industry are new for 1987. Therefore, only the current-year data are shown. (See Appendix C and the Industry Series report for this industry for a comparison of the old and new SIC codes, and the 1982 Concentration Ratios publication for the historical data.)

¹²Data not completely comparable to 1954 and later years because of a change in industry classification. For discussion of 1947 to 1954 comparability, see 1954 Census of Manufactures, Volume II, Industry Statistics, Dairy Products.

¹³In 1954, Industry 2027, Fluid Milk, was composed of two industries: 2026, Fluid Milk (Only); and 2027, Fluid Milk and Other Products. In 1954, figures on value of shipments and share of value of shipments accounted for by the 4 and 8 largest companies have been recalculated on a basis comparable to 1958. In 1947 and earlier years, establishments primarily distributing fluid milk were classified as nonmanufacturing.

¹⁴Value of production is shown for this industry rather than value of shipments. For 1963 and subsequent years, figure includes value of primary and secondary products made; miscellaneous receipts, such as receipts for contract and commission work on materials owned by others; scrap and other salable refuse; and the value of products bought and resold in the same condition. For 1958 and prior years, resales are excluded.

¹⁵For 1977, industry classification of several establishments changed to industry 2035 because of a change in products they produced. As a result, 1977 data are not completely comparable with data for prior years.

¹⁶For 1972, this industry was split out from industry 2037, Frozen Fruits and Vegetables, to form new industry 2038.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

¹⁷Although the 1987 Standard Industrial Classification (SIC) code for this industry is unchanged from the 1972 system, the definition and content of this industry have changed greatly. Therefore, only the current-year data are shown. (See Appendix C and the Industry Series report for this industry for a comparison of the old and new SIC codes, and the 1982 Concentration Ratios publication for the historical data.)

¹⁸Establishments in Alaska and Hawaii are important producers in this industry. Recomputed figures cannot be shown for the 4, 8, 20, and 50 largest companies prior to 1963 without disclosing the data for individual companies in Alaska and Hawaii.

¹⁹The 1957 SIC combined two industries which were separate in the 1945: Industry 2882, Linseed Oil Mills; and Industry 2884, Vegetable Oil Mills, N.E.C. The 1958 value of shipments figures for these two industries have been combined and the ratios for the 4 and 8 largest companies have been recomputed on a basis comparable to 1963 and later years.

²⁰The 1963 SIC combined two industries which were separate in the 1945 SIC: Industry 2886, Grease and Tallow; and Industry 2889, Animal Oils, N.E.C. The 1958 value of shipments figures for these two industries have been combined and the ratios for the 4 and 8 largest companies have been recomputed on a basis comparable to 1963 and later years.

²¹The 1957 SIC combined two industries which were separate in the 1945 SIC: Industry 2092, Shortening and Cooking Oils; and Industry 2093, Margarine. The 1958 value of shipments figures for these two industries have been combined and the ratios for the 4 and 8 largest companies have been recomputed on a basis comparable to 1963 and later years.

²²Includes data for 21 wholesale distributors of malt liquors. Each had less than 10 employees and had no significant effect on any of the statistics for the industry, except the establishment and company counts.

²³Bonded store rooms which were engaged in blending wines were excluded in 1947.

²⁴1977 data are not directly comparable to prior-year data. In 1977, a total of 388 establishments were added to this industry accounting for \$505 million in value of production. In prior years, the additional establishments were erroneously classified as nonmanufacturing locations.

²⁵1954 data for industry 2036 are not completely comparable to 1958 and subsequent years; 1947 data are not available. In 1947, Industry 2036, Packaged Seafood, was made up partly of establishments classified in Industry 2037, Frozen Fruits, Vegetables, and Fish (frozen packaged seafood), and a significant, but undetermined, number of establishments (selling fresh packaged seafood) classified in nonmanufacturing industries (principally Industry 5046, Fish and Seafoods).

²⁶Jobbers were included in 1947 but excluded in 1954 and later years.

²⁷Value of production is shown for this industry in 1958 and prior years; whereas, value of shipments is shown for 1963 and later years. This change does not significantly affect the comparability. For industries 2253, 2254, and 2259, the method of computing coverage and specialization ratios was changed in 1967, causing a significant decrease in some ratios.

²⁸Although the 1987 definition and Standard Industrial Classification (SIC) code for this industry are the same as those used in the 1972 system, the content of the industry has changed slightly. However, the net result of these changes account for less than 3 percent of the industry aggregate, and the 1987 data are considered to be directly comparable to the prior-year data. (See Appendix C for a comparison of the 1987 and 1982 SIC codes.)

²⁹For 1977, industry 2282 was redefined to exclude those establishments which produce filament yarn and texture it in the same plant. These establishments are now included in industries 2823 and 2824.

³⁰The 1972 definition of this industry has been revised from that used in the 1967 SIC manual. In 1967, industry 2297 was titled Scouring and Combing Mill Products. This is now product class 22993 in Industry 2299, Textile Goods, N.E.C. In 1967, Nonwoven Textiles was product class 22991 in industry 2299.

³¹1977 data are not comparable to other years. 1977 figure covers only products made in cut-and-sew shops; other years figures also include products made in knitting mills.

³²The 1957 SIC combined two industries which were separate in the 1945 SIC: Industry 2381, Fabric Dress Gloves; and Industry 2382, Fabric Work Gloves. The 1958 value of shipments figures for these two industries have been combined and the ratios for the 4 and 8 largest companies have been recomputed on a basis comparable to 1963 and later years.

³³A review of the reports for 1963 indicated that there were approximately 300 very small companies included in this industry which described their activities as custom drapery producers, interior decorators' workrooms, etc. Approximately half of these companies were classified as nonmanufacturing in the 1958 census.

³⁴For 1963 and subsequent years, value of shipments total includes shipments of logs for establishments that own and maintain timberlands but contract the cutting of logs to others. The establishments that actually performed the logging on a contract basis also reported their receipts for contract logging under the heading, total value of shipments. Thus, an undetermined amount of duplication exists in the shipments total. The figures previously reported for 1958 and prior years do not include shipments for timberland owners that do not perform their own logging.

³⁵Comparable data are not available for prior years due to a significant revision in the 1972 SIC system. This industry, as now constituted, includes wood frames for household furniture which were previously classified in industry 2512.

³⁶The low coverage ratio for 1963 was due to the large amount of wood chips manufactured by establishments classified in industry 2421. In 1967, wood chips were reclassified from industry 2429 to industry 2421.

³⁷Comparable data are not available for prior years due to a significant revision in the 1972 SIC system. Custom cabinetwork, to be built in, was reclassified from industry 2431 to 2434.

³⁸Comparable data are not available for prior years due to a major revision in the 1972 SIC system. Industry 2434 was formed by combining the manufacture of custom cabinetwork, to be built in (previously classified in industry 2431) with wood kitchen cabinets (previously in 2511).

³⁹This industry was revised for 1972. Historical data are not available. All products now classified in industry 2439 were formerly part of old Industry 2433, Prefabricated Wood Structures. The balance of old industry 2433 is now classified as industry 2452.

⁴⁰Comparable data for prior years are not available due to a major revision in the 1972 SIC system. This industry was previously part of industry 2499.

⁴¹Comparable data for prior years are not available due to a major revision in the 1972 SIC system. All products now classified in this industry were formerly part of industry 3791.

⁴²Comparable data for prior years are not available due to a major revision in the 1972 SIC system. All products now classified in industry 2452 were formerly part of old industry 2433. The balance of old industry 2433 is now classified as 2439.

⁴³Comparable data prior to 1972 are not available due to a significant revision in the 1972 SIC system. Radio, phonograph, stereo wood cabinets, and sewing machine cabinets were reclassified to new SIC industry 2517, and wood kitchen cabinets were reclassified to new SIC industry 2434.

⁴⁴Data for 1972 and subsequent years are not completely comparable to earlier data due to a significant revision in the 1972 SIC system. The industry now excludes wood frames for household furniture which was reclassified to industry 2426.

⁴⁵Comparable data prior to 1972 are not available due to a significant revision in the 1972 SIC system. This industry was previously included with industry 2511.

⁴⁶Beginning with 1958, integrated pulp and paper companies were given the option of reporting their pulp and paper (or board) operations on a combined basis when both were conducted at a single physical location. Most integrated companies exercise this option and file a single report covering their pulp, paper (or board) making operations at a single physical location, but a few with departmental accounting chose to report separately for the pulp mill and paper (or board) mill. The other pulp mills separately reported are: (1) those exclusively selling their pulp on the market (that is, not associated or affiliated with a paper and board mill), and (2) those pulp mills affiliated or associated with paper or board mills but operated at a different physical location from the paper or board mills).

⁴⁷Although the Standard Industrial Classification (SIC) code for this industry is new for 1987, the definition and content of this industry are the same as was used in the 1972 system, but assigned a different code. Therefore, both the current and prior-years data are shown. (See Appendix C for a comparison of the 1987 and 1982 SIC codes.)

⁴⁸This industry was revised for 1972; comparable data prior to 1972 are not available. The stationery products which now constitute industry 2648 were classified in 1967 in industry 2649.

⁴⁹Data for 1972 and succeeding years are not completely comparable to earlier data due to a significant revision in the 1972 SIC system. Industry 2752 was split into two separate industries: this industry and lithographic platemaking and related services (Industry 2795, 1967 product class 2752).

⁵⁰Government-owned establishments that are privately operated are included in this industry but did not enter into the calculation of the specialization and coverage ratios as all dollar receipts for these establishments were included in "miscellaneous receipts."

⁵¹Comparable data for 1970 and earlier years are not available due to a significant revision in the 1972 SIC system. The 1972 revisions transferred the manufacture of household bleaches to industry 2842; the manufacture of synthetic ammonia, nitric acid, and ammonium compounds to industry 2873; and the manufacture of phosphoric acid to industry 2874.

⁵²Comparable data are not available for 1970 and earlier years due to a significant revision in the 1972 SIC system. The 1972 revisions transferred the manufacture of unsupported plastics film, sheets, rods, and tubes; regenerated cellulosic products, except rayon; and custom compounded purchased resins to industry 3079. In addition, the production of synthetic resin adhesives from resins manufactured in the same establishment, was transferred to industry 2891.

⁵³Industry definition was revised for 1977 to include manmade fiber producers primarily engaged in the manufacture of textured fibers. These establishments were included in industry 2282 for 1972. Changes represent approximately 6 percent of value of shipments for industry 2824.

⁵⁴Includes textured filament yarn made from purchased filament yarn (primary product of industry 2282).

⁵⁵This industry was revised for 1972; historical data are not available. The 1972 revisions transferred the manufacture of household insecticides and repellants from industry 2842 to industry 2879. In addition, the production of household liquid and dry bleaches was transferred from industry 2819 to industry 2842.

⁵⁶Data for 1972 and subsequent years are not completely comparable to earlier data due to a significant revision in the 1972 SIC system. Caulking and sealant compounds, formerly classified in industry 2851, were reclassified into industry 2891. The degree of change based on total employment is estimated to be 4 percent.

⁵⁷Comparable data for 1970 and earlier years are not available due to a major revision in the 1972 SIC system. This industry was formed by combining synthetic ammonia, nitric acid, and ammonium compounds (previously classified in industry 2819); urea (previously in 2818); and fertilizer materials of organic origin (previously in industry 2871).

⁵⁸Coverage ratio excludes mixed fertilizers made by plants which mix fertilizers from purchased materials (primary products of industry 2875).

⁵⁹Comparable data for 1970 and earlier years are not available due to a major revision in the 1972 SIC system. Industry 2874 was formed by combining most of the products of old industry 2871, which includes superphosphate, other phosphatic fertilizer materials, and mixed fertilizers produced from one or more materials made in the same plant, with phosphoric acid, which was previously classified in industry 2819.

⁶⁰Coverage ratio excludes mixed fertilizers made by plants which manufacture fertilizer materials (primary products of industry 2874).

⁶¹Comparable data for 1970 and earlier years are not available due to a major revision in the 1972 SIC system. The industry as now constituted includes the manufacture of household insecticides and repellants which were previously classified in industry 2842.

⁶²Comparable data are not available for 1970 and earlier years due to a significant revision in the 1972 SIC system. This industry as now constituted includes synthetic resin adhesives from resins manufactured in the same establishment (formerly in industry 2821); caulking compounds and sealants (formerly in industry 2851); rubber cement (formerly in industry 3069); and sealants, n.e.c. (formerly in industry 2899); and excludes gelatin and sizes (now in industry 2899).

⁶³Data for 1972 and subsequent years are not completely comparable to earlier data due to a slight revision in the 1972 SIC system. The industry as now constituted includes gelatin, ready-to-eat desserts (formerly classified in industry 2891); sizes (formerly in industry 2891); and embalming chemicals (formerly in industry 3994); and excludes sealants, n.e.c. (now classified in industry 2891). The degree of change, based on total employment, is estimated to be 5 percent.

⁶⁴Coverage ratio excludes lubricating oils and greases which are also primary to industry 2992, Lubricating Oils and Greases.

⁶⁵Coverage ratios since 1982 exclude lubricating oils and greases which are also primary to industry 2911, Petroleum Refining; data prior to 1982 include these primary products.

⁶⁶Data prior to 1972 are not directly comparable to later years due to a significant revision in the 1972 SIC system. Plastics footwear, which was classified in industry 3079 in 1967, is now included in industry 3021. However, the degree of change based on total employment is estimated to be 11 percent.

⁶⁷The rubber and plastics hose and belting industry is included for the first time in the census of manufactures for 1972. The industry is comprised of parts of 1967 industry 3069, Fabricated Rubber Products, N.E.C., and industry 3079, Miscellaneous Plastics Products.

⁶⁸Data prior to 1972 are not completely comparable to later data due to a significant revision in the 1972 SIC system. Industrial leather belting was reclassified to Industry 3199, Leather Goods, N.E.C.

⁶⁹The 1957 SIC combined two industries which were separate in the 1945 SIC: Industry 3192, Saddlery, Harness, and Whips, and this industry. The 1958 value of shipments figures for these two industries have been combined and the ratios for the 4 and 8 largest companies have been recomputed on a basis comparable to 1963 and 1966.

⁷⁰Company count includes a small number of administrative records which have no apparent effect on total value of shipments or percent of value of shipments accounted for by the largest companies.

⁷¹Data prior to 1972 are not directly comparable to later years due to a significant revision in the 1972 SIC system. Insulation materials containing asbestos, which were previously classified in industry 3293, are now included in this industry. However, the degree of change, based on total employment, is estimated to be 4 percent.

Table 4. Share of Value of Shipments Accounted for by the 4, 8, 20, and 50 Largest Companies in Each Manufacturing Industry: 1987 and Earlier Years—Con.

⁷²Industry 3312, Blast Furnaces and Steel Mills, has been redefined since 1954 to include Industry 3311, Blast Furnaces; Industry 3312, Steelworks and Rolling Mills; Industry 2931, Beehive Coke Ovens; and Industry 2932, Byproduct Coke Ovens. For 1954 and 1947, value added by manufacture and shares accounted for by the largest 4, 8, and 20 companies have been recomputed on a basis comparable to later years.

⁷³Coverage ratios are based on shipments of primary products only by this industry. However, some of these products are also primary to one or more other industries.

⁷⁴This industry includes, in addition to commercial (jobbing) foundries, "captive" foundries at separate locations producing gray iron from castings for other plants of the same company. Accordingly, the ratios for this industry do not reflect the market shares in the commercial foundry industry as such.

⁷⁵A number of small establishments were misclassified into this industry. This misclassification affects the figure for the number of companies but has no appreciable effect on the total value of shipments or the percentage of value of shipments accounted for by the largest companies.

⁷⁶The 1957 SIC combined three industries which were separate in the 1945 SIC: Industry 3422, Edge Tools; Industry 3423, Hand Tools, N.E.C.; and Industry 3424, Files. The 1958 value of shipments figures for these three industries have been combined and the ratios for the 4 and 8 largest companies have been recomputed on a basis comparable to 1963 and later years.

⁷⁷This industry was revised for 1972; historical data are tabulated under the old definition and are not directly comparable. Warm air furnaces and parts and attachments for warm air furnaces are now classified in Industry 3585, Refrigeration and Heating Equipment.

⁷⁸Not completely comparable to 1966 and earlier years; some companies included construction receipts with value of shipments for those years. Such receipts are excluded in 1967.

⁷⁹Data prior to 1977 for Industries 3546, Power Driven Hand Tools, and 3553, Woodworking Machinery, are not comparable. Plants primarily engaged in manufacturing chain saws were tabulated in Industry 3546 in 1977; in Industry 3553 in 1972. These plants had industry shipments totaling \$430.8 million in 1977.

⁸⁰For 1972, data for coin-operated washers and dryers less than 10-pound load, and parts and attachments for these products have been moved to Industry 3633, Household Laundry Equipment. Products shifting out of this industry represent approximately 15 percent of the total shipments value at the U.S. level.

⁸¹Prior to 1982, concentration ratios were based on value added for this industry. The ratios based on shipments are not known but are expected to be similar to those shown. The dollar figures shown are value of shipments for all years.

⁸²Industry 3716, Motor Homes Produced on Purchased Chassis, was created as a separate industry in 1977 from Industry 3713, Trucks and Bus Bodies. Data for 1977 for industry 3713 are not comparable to prior years.

⁸³Up to 1970, value of industry receipts was collected in terms of value of work done; since 1970, it has been collected as value of shipments.

⁸⁴Not completely comparable to 1958 and later years because of a change in the SIC system. In 1958 and later years, an establishment manufacturing complete aircraft was classified in Industry 3721, Aircraft, if its value of work done on aircraft exceeded its value of shipments of any other single industry's products. In 1954 and earlier years, any establishment manufacturing at least one complete aircraft was classified in industry 3721.

⁸⁵Value of work done is collected for this industry.

⁸⁶This industry was revised for 1972; historical data are tabulated under the old definition and are not comparable. Farm wagons and other farm transportation equipment were reclassified to industry 3523. Other automobile trailers were reclassified to industry 3792; self-propelled golf carts, classified in this industry prior to 1972, were reclassified to industry 3799.

⁸⁷In 1967, Industry 3821, Mechanical Measuring Devices, was split into three industries: 3823, Process Control Instruments; 3824, Fluid Meters and Counting Devices; and 3829, Measuring and Controlling Devices, N.E.C.

⁸⁸Data prior to 1972 are not directly comparable to later years data due to a significant revision in the SIC system. Broad-tipped markers, formerly in industry 3953 are now included in industry 3951. However, the degree of change (based on total employment) for industry 3951 and industry 3953 is 6 percent and 8 percent, respectively.

⁸⁹Data prior to 1972 are not directly comparable to later years data due to a significant revision in the SIC system. Data for embalming chemicals are now included in Industry 2899, Chemical Preparations, N.E.C.; burial garments in Industry 2389, Apparel and Accessories, N.E.C.; and innerliners, sold as such, in Industry 2399, Fabricated Textile Products, N.E.C. However, the degree of change (based on total employment) is less than 1 percent.



APPENDIX A. Explanation of Terms

Number of establishments and companies—As discussed in the Introduction, a separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on the number of custodial employees, capital expenditures, inventories, or any shipments from inventories during the portion of the year the plant was in operation.

In this report, data are shown for establishments in operation at any time during the year. A comparison with the number of establishments in operation at the end of the year will be provided in the Introduction of the General Summary subject report.

Employment and related items—The report forms requested separate information on production workers for a specific payroll period within each quarter of the year and on other employees as of the payroll period which included the 12th of March.

All employees—This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period ending which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

Production workers—This item includes employees (up through the working-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), record keeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

All other employees—This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the working-supervisor level. It includes sales (including driver salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria and medical), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment who are engaged in the construction of major additions or alterations to the plant and who are utilized as a separate work force.

In addition to reports sent to operating manufacturing establishments, information on employment during the payroll period which included March 12 and annual payrolls also was requested of auxiliary units (e.g., administrative offices, warehouses, and research and development laboratories) of multiestablishment companies.

Payroll—This item includes the gross earnings of all employees on the payroll of operating manufacturing establishments paid in the calendar year 1987. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, all bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations, but excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payroll of manufacturing establishments.

The census definition of payroll is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that

this definition does not include employers' Social Security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

Production-worker hours—This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

Cost of materials—This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (1) all raw materials, semifinished goods, parts, components, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year, (2) electric energy purchased, (3) fuels consumed for heat, power, or the generation of electricity, (4) work done by others on materials or parts furnished by manufacturing establishments (contract work), and (5) products bought and resold in the same condition. (See discussion of duplication of data below).

Value of shipments—This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and resold without further processing. Included are all items made by or for the establishments from materials owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of "all other costs" (including company overhead) and profit. (See discussion of duplication of data below).

Duplication in cost of materials and value of shipments—The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages

in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the United States level and beginning in 1964, for all geographic levels.

Value added by manufacture—This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments (see footnote in table 2), value added is adjusted only for the change in work-in-process inventories between the beginning and end-of-year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

"Value added" avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

New capital expenditures—For establishments in operation and any known plants under construction, manufacturers were asked to report their new expenditures for (1)

permanent additions and major alterations to manufacturing establishments, and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

The totals for new expenditures include expenditures leased from nonmanufacturing concerns through capital leases, new facilities owned by the Federal Government but operated under contract by private companies, and plant and equipment furnished to the manufacturer by communities and nonprofit organizations. Also excluded are expenditures for used plant and equipment (although reported in the census), expenditures for land, and cost of maintenance and repairs charged as current operating expenses.

End-of-year inventories—Respondents were asked to report their 1986 and 1987 end-of-year inventories at cost or market. Effective with the 1982 Economic Censuses, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). In 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Because of this change in reporting instructions, the 1982 through 1987 data for inventories and value added by manufacture included in the tables of this report are not comparable to the prior-year data shown in historical census of manufactures and annual survey of manufactures publications.

Specialization and coverage ratios—These items are not collected on the report forms but are derived from the data shown in table 5b of the industry reports. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

As noted in the introduction, an establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry. These are shown in chapter 1, table 3.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.



APPENDIX B.

Annual Survey of Manufactures (ASM) Sampling and Estimating Methodologies

DESCRIPTION OF SURVEY SAMPLE

The Annual Survey of Manufactures (ASM) contains two components. The mail portion of the survey is a probability sample of about 56,000 manufacturing establishments selected from a total of about 220,000 establishments. These 220,000 establishments represent all manufacturing establishments of multiunit companies and all single establishment companies mailed schedules in the 1982 Census of Manufactures. This mail portion is supplemented annually by a Social Security Administration list of new manufacturing establishments opened after 1982 and a list of new multiunit manufacturing establishments identified from the Census Bureau's Company Organization Survey.

The 1984 through 1988 ASM sample differs slightly from the previous sample. For the current panel, all establishments of companies with 1982 shipments in manufacturing in excess of \$500 million were included in the survey panel with certainty. There are approximately 500 such companies collectively accounting for approximately 18,000 establishments. For the remaining portion of the mail survey, the establishment was defined as the sampling unit. For this portion, all establishments with 250 employees or more and establishments with a very large value of shipments also were included in the survey panel with certainty. A total of 12,100 establishments were selected from this portion of the universe with certainty. Therefore, of the 56,000 manufacturing establishments included in the ASM panel, approximately 31,000 are selected with certainty. These certainty establishments collectively account for approximately 80 percent of the total value of shipments in the 1982 census.

Smaller establishments in the remaining portion of the mail survey were sampled with probabilities ranging from 0.999 to 0.005 in accordance with mathematical theory for optimum allocation of a sample. The probabilities of selection assigned to the smaller establishments were proportional to measures of size determined for each establishment. The measures of size depend directly upon each establishment's 1982 product class values and the historic variability of the year-to-year shipments of each product class. Product classes displaying more volatile year-to-year change in shipments at the establishment level were sampled at a heavier rate.

This method of assigning measures of size was used in order to maximize the precision (that is, minimize the variance of estimates of the year-to-year change) in the value of product class shipments. Implicitly, it also gave weight differences in employment, value added, and other

general statistics, since these are highly correlated with value of shipments. Individual sample selection probabilities were obtained by multiplying each establishment's final measure of size by an overall sampling fraction coefficient calculated to yield a total expected sample size.

The sample selection procedure gave each establishment in the sampling frame an independent chance of selection. This method of independent selection permits the rotation of small establishments out of a given sample panel without introducing a bias into the survey estimates.

The nonmail portion of the survey includes all single-establishment companies that were tabulated as administrative records in the 1982 Census of Manufactures. Although this portion contained approximately 130,000 establishments, it accounted for less than 2 percent of the estimate for total value of shipments at the total manufacturing level. This portion was not sampled; rather, the data for every establishment in this group were estimated based on selected information obtained annually from the administrative records of the Internal Revenue Service and the Social Security Administration. This administrative-record information, which includes payroll, total employment, industry classification, and physical location of the establishment, was obtained under conditions which safeguard the confidentiality of both tax and census records. Estimates of data other than payroll and employment for these small establishments were developed from industry averages.

The corresponding estimates for the mail and nonmail establishments were added together, along with the base-year differences, as defined in the Description of Estimating Procedure section, to produce the figures shown in this publication.

DESCRIPTION OF ESTIMATING PROCEDURES

Most of the ASM estimates for the years 1983-1986 were computed using a difference estimation procedure. For each item, a base-year difference was developed. This base-year difference is equal to the difference between the 1982 census published number for an item total and the linear ASM estimate of the total for 1982. The ASM linear estimate was obtained by multiplying each sample establishment's data by its sample weight (the reciprocal of its probability of selection) and summing the weighted values.

These base-year differences were then added to the corresponding current-year linear estimates, which include the sum of the estimates for the mail and nonmail establishments, to produce the estimates for the years 1983-1986. Estimates developed by this procedure usually are far more reliable than comparable linear estimates developed from the current sample data alone.

The 1987 sample estimates for the purchased service items, shown in table 3e, are strictly ASM linear estimates, however, developed only from ASM establishments that reported the specific item.

The remaining estimates in table 3e, showing the breakdown of expenditures for new machinery and equipment and costs of parts (separated into purchases from foreign sources and purchases from domestic sources), were computed as ratio estimates. To do this, linear estimates of the new machinery detail items were developed from the ASM establishments and were ratio adjusted to the corresponding census total for new machinery. In a similar fashion, the ASM linear estimates of the detailed purchased materials items were ratio adjusted to the corresponding census total for cost of parts.

QUALIFICATIONS OF THE DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sampled lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the differences between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of the estimates.

The particular sample selected for the ASM is one of a large number of similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretical, comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected statistics in this report. They are presented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete coverage value would be included in the range:

1. From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
2. From two standard errors below to two standard errors above the derived estimate for about 19 of 20 of all possible samples.
3. From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown as 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total and almost certain confidence that the interval 47,000 to 53,000 includes the complete coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected in the course of the Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or only moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown.

The concept of complete coverage under the conditions prevailing for the ASM is not identical to the complete coverage of the census of manufactures, as the censuses have been conducted. Nearly all types of operational errors that affect the ASM also occur in the censuses. The ASM and the censuses, are conducted under quite different conditions, and operational errors can be better controlled in the ASM than in the censuses. As a result, for many of the census figures, the errors are of the same order of size as the total errors of the corresponding annual survey estimates. The differences between the census and ASM operating conditions also disturb, to some degree, the comparability of the ASM and census data.

Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be of limited reliability. However, the figure may be combined with higher-level totals, creating a broader aggregate, which then may be of acceptable reliability.

APPENDIX C.

Comparability of SIC Codes: 1987 to 1982

1987	1982	1987	1982	1987	1982	1987	1982
2015	2016 2017	2499	pt 2499	3339	pt 3332 pt 3333 pt 3339	3596	3576
		2621	2621 pt 2661				
2038	pt 2038	2656	pt 2654	3363	pt 3361	3599	pt 3599
2044	pt 2044	2657	2651 pt 2654	3364	pt 3362 pt 3369	3613	pt 3613
2045	2045 pt 2038	2671	pt 2641	3365	pt 3361	3625	pt 3613 3622 pt 3679
2047	pt 2047	2672	pt 2641	3366	pt 3362		
2048	2048 pt 2047	2673	pt 2643	3369	pt 3369	3639	3639 pt 3636
		2674	pt 2643	3491	pt 3494		
2053	pt 2038	2675	2645	3492	pt 3494	3641	3641 pt 3699
2064	pt 2065	2676	2647	3494	pt 3494		
2066	2066 pt 2099	2677	2642	3496	pt 3496	3652	pt 3652
2068	pt 2065	2678	2648				
		2679	2646 2649	3531	3531 pt 3536 pt 3537	3661	3573 pt 3661
2096	pt 2099	2754	pt 2754	3536	pt 3536	3663	pt 3662
2098	pt 2098	2759	pt 2753	3537	pt 3536 pt 3537	3669	pt 3662
2099	pt 2099 pt 2034 pt 2044 pt 2098	2796	2793 2794 2795 pt 2753 pt 2754	3543	3565	3671	3671 pt 3679
				3548	3623 pt 3549		
2258	2258 2292	2835	pt 2831	3549	pt 3549	3672	pt 3679
		2836	pt 2831				
2273	2271 2272 2279	2865	2865 pt 2911	3553	pt 3553	3679	pt 3679
		2869	2869 pt 2911	3555	pt 3555	3695	pt 3573 pt 3679
2281	2281 2283	2911	pt 2911	3556	pt 3551		
				3559	3559 pt 3549 pt 3636	3699	pt 3662 pt 3699
2299	2291 2293 2294 2299	2999	2999 pt 2911	3561	pt 3561	3812	pt 3811 pt 3662
		3052	3041	3563	pt 3563		
2321	pt 2321	3053	3293	3565	pt 3551 pt 3569	3821	pt 3811
2322	2322 pt 2321	3061	pt 3069			3826	pt 3811 pt 3832
		3069	3031 pt 3069	3569	pt 3569		
2325	pt 2327 pt 2328	3081	pt 3079	3571	pt 3573 pt 3662	3827	pt 3832
2326	pt 2328	3082	pt 3079	3572	pt 3573		
2353	2351 2352	3083	pt 3079	3575	pt 3573 pt 3661	3829	3829 pt 3662 pt 3811 pt 3832
2369	2363 2369	3085	pt 3079	3578	3574	3844	pt 3693
		3086	pt 3079	3579	3572 3579		
2395	pt 2395	3087	pt 3079			3845	pt 3693
2396	2396 pt 2395	3088	pt 3079	3585	3585 pt 3699	3965	3963 3964
		3089	pt 3079	3593	pt 3599		
2493	2492 pt 2499 pt 2661	3315	3315 pt 3496	3594	pt 3561 pt 3563	3999	3962 3999

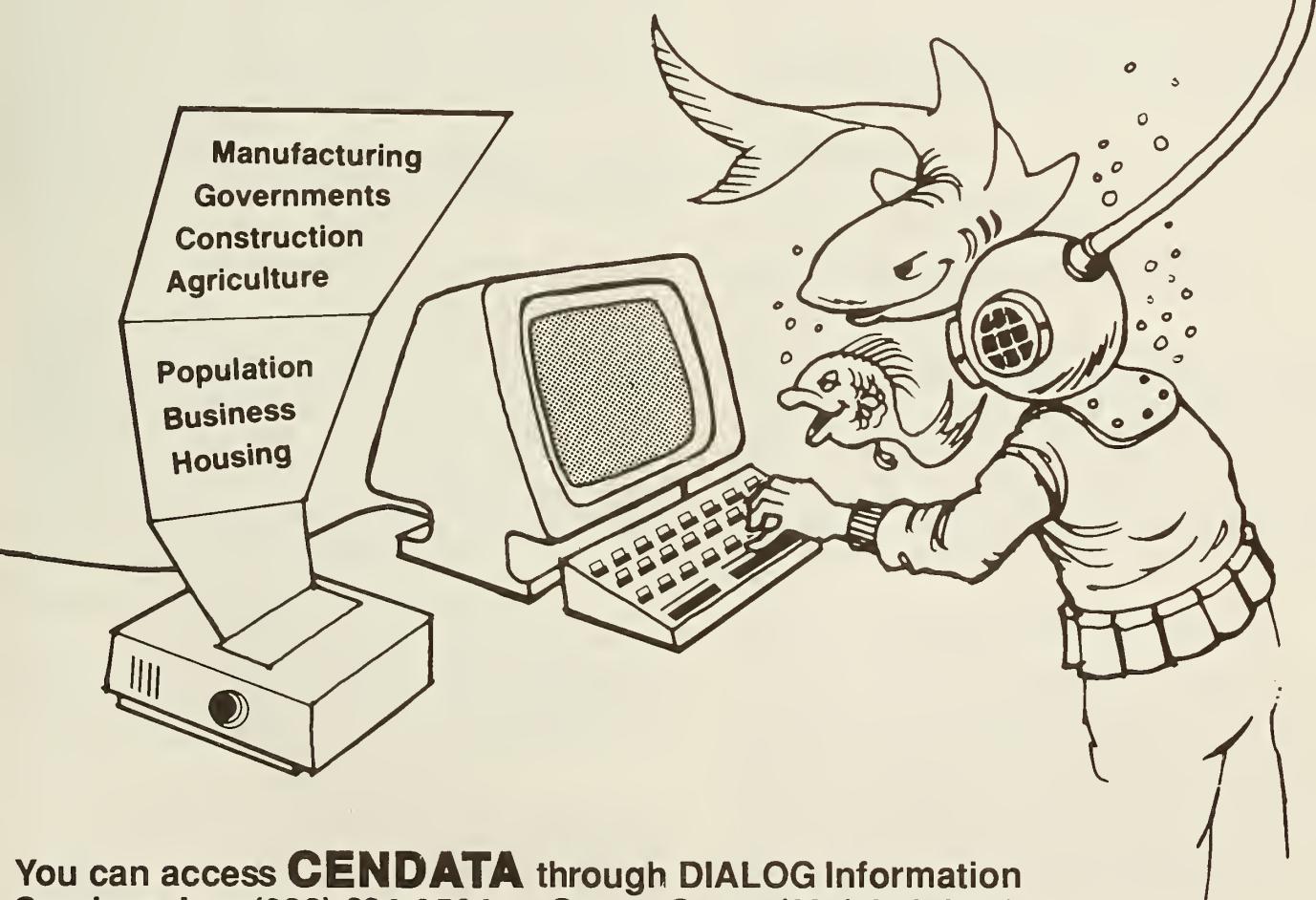


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PUBLICATION PROGRAM

1987 CENSUS OF MANUFACTURES

Publications of the 1987 Census of Manufactures, containing preliminary and final data on manufacturing establishments in the United States, are described below. Publications order forms for the specific reports may be obtained from any Department of Commerce district office or from Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, DC 20233.

Preliminary Reports

Industry series—83 reports (MC87-I-20A(P) to -39D(P))

Preliminary industry data are issued in 83 separate reports covering 459 industries. Preliminary summary data for the U.S. and States are released in one report.

Final Reports

Industry series—83 reports (MC87-1-20A to -39D)

Each of the 83 reports provides information for a group of related industries ("dairy products" includes industries for butter, cheese, milk, etc.). Final figures for the United States are shown for each of the 459 manufacturing industries on quantity and value of products shipped and materials consumed, cost of fuels and electric energy, capital expenditures, assets, rents, inventories, employment, payroll, payroll supplements, hours worked, value added by manufacture, number of establishments, and number of companies. Comparative statistics for earlier years are provided where available.

For each industry, data on value of shipments, value added by manufacture, capital expenditures, employment, and payroll are shown by employment-size class of establishment, State, and degree of primary product specialization.

Geographic area series—51 reports (MC87-A-1 to -51)

A separate report is being published for each State and the District of Columbia. Each report presents data for industry groups and industries on value of shipments, cost of materials, value added by manufacture, employment, payroll, hours worked, new capital expenditures, and number of manufacturing establishments for the State, MSA's, counties, and selected places. Comparative statistics for earlier census years are shown for the State and large MSA's. Manufacturing totals are presented for each county and for places with significant manufacturing activity. Detailed statistics (including inventories, assets, rents, and energy costs) are presented only in statewide totals.

Subject series—7 reports (MC87-S-1 to -7)

Each of the seven reports contains detailed statistics for an individual subject, such as concentration ratios in manufacturing, type of organization, textile machinery in place, distribution of sales by class of customer, manufacturers' shipments to the Federal Government, and a general national-level summary.

Reference series—1 report (MC87-R-1)

The Numerical List of Manufactured and Mineral Products includes a description of the principal products and services published in the 1987 Censuses of Manufactures and Mineral Industries.

Location of Manufacturing Plants—1 report (MC87-LM)

This report includes data for number of establishments by four-digit SIC industry and by employment-size class for counties, incorporated places of 2,500 inhabitants or more, and zip codes for each State. (This report is available only on magnetic tape and CD-ROM.)

Analytical Reports—3 reports (AR87-1 to -3)

Exports From Manufacturing Establishments (AR87-1)

This report presents data on exports by two- and three-digit SIC industry groups for the United States and States. Information is presented on value of direct report shipments and estimates of the employment required to manufacture these products. Included are estimates of employment in manufacturing and nonmanufacturing establishments that supply parts, materials, and services for production of manufactured exports.

Selected Characteristics of Manufacturing Establishments That Export (AR87-2)

This report presents data on the number of manufacturing companies and establishments that export by major group, State, employment size, and ratios of exports to shipments.

Indexes of Production (AR87-3)

The indexes presented in this report are designed to measure the change in physical output of each manufacturing and mineral industry between 1982 and 1987.

MICROFICHE

Every final published report in the 1987 Census of Manufactures will be available on microfiche.

PUBLIC-USE COMPUTER TAPES AND COMPACT DISCS

Data from the final industry series, geographic area series, and the Location of Manufacturing Plants report will be available on public-use computer tapes and compact discs-read only memory (CD-ROM). These tapes will provide the same information found in the final reports. Computerized data products are available for users who wish to summarize, rearrange, or process large amounts of data. These products, with corresponding technical documentation, are sold by Data User Services Division, Customer Services (Tapes), Bureau of the Census, Washington, DC 20233.

OTHER ECONOMIC CENSUSES REPORTS

Data on retail trade, wholesale trade, service industries, construction industries, mineral industries, transportation, enterprise statistics, minority-owned businesses, and women-owned businesses also are available from the 1987 Economic Censuses. A separate series of reports covers the censuses of outlying areas—Puerto Rico, Virgin Islands of the United States, Guam, and the Northern Mariana Islands. Separate announcements describing these reports are available free of charge from Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, DC 20233.

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